The American Journal of CLINICAL MEDICINE

Vol. 20 SEPTEMBER, 1913 No. 9

The Cure of Tetanus

ONE after another the maladies formerly considered incurable give way to the attacks of science. Modern investigating methods, modern means of meeting conditions, modern knowledge, and the consequent lifting of the cloud of superstitious cowardice that enveloped our fathers, have wiped many of these diseases from the list of the hopeless and unamenable. Nobody can doubt that the other as yet unsolved problems will in time cease to be such; there is—must be—a remedy for cancer, a direct means of combating the tubercle bacillus, a cure for leprosy.

Among these formidable maladies none is more to be dreaded than tetanus. Its incidence after apparently trifling wounds, the frequency with which it attacks little children, the frightful suffering it entails, but without that blessed mental derangement that assauges so many other agonies, render "lockjaw" a name of dread.

There is in that modern Eden, southern California, a fertile plot of ground that is closely fenced and placarded with warnings that no child shall gather blossoms therein, no man plunge spade into the rich mold. This is a place accursed, to be shunned by man and beast, for the soil is impregnated with tetanus bacilli, and every man who has attempted to cultivate it has died. The first trifling scratch or abrasion, and he is doomed.

Violent maladies seem to call for violent remedies, and whenever an agent of unusual power develops, it is sure to be utilized in the treatment of tetanus. The usual result follows—the lack of concerted effort, of scientific method, prevents a really exhaustive test being made; and here also the sea is littered with therapeutic derelicts, useless to all and a menace to the navigator. When the medical profession ceases to be a mob and becomes an organized and disciplined army, then we may no longer have so much rubbish to encumber us in the shape of remedies or measures proposed, but neither proved nor disproved.

The tale of the old slave who was given an ounce of quinine by mistake—and was cured of tetanus incidentally—was responsible for at least one experiment on this writer's part; and the only noticeable effect was an aggravation of the suffering, if that were possible.

Pilocarpine has been applied, with asserted success, but also without success by others—it has not really been tried out.

High hopes were excited by the success following the early trials of Baccelli's method, the hypodermic application of phenol, and for a time it appeared that the problem was solved. But the subsequent reports were less favorable, and at last we were driven to the conclusion that tetanus in Italy must be of a much less formidable type than it presents in other parts of the world.

When first introduced the antitetanic serum was scarcely a decided success. If given after the characteristic tetanic symptoms had developed it usually failed. Better results followed when the remedy was given very early, although even then the mortality was not greatly reduced. There was, how-

ever, ample evidence to show its prophylactic value, and its best field has been and still is for the prevention of the disease in persons who have been exposed to infection from injury and wounds of the skin. The best surgeons now use it almost as a routine measure with all such suspicious lesions.

Even more promising is the newer product, the tetanus antitoxin; the bulk of this remedy has been reduced by the elimination of the blood-serum and the solution of the antitoxic globulins in salt solution. In this form it is much more easy to give the larger doses that clinicians are now finding necessary. Park, of the Research Laboratories of the New York City Department of Health, urges the use of 20,000 units at the appearance of the least suspicious sign, and as much as 250,000 units have been given in a single case, and with good results. Park also advises the intravenous administration of the antitoxin, and there is no doubt that thus employed the percentage of cures is increased. The greatest field for tetanus antitoxin, however, remains in the field of prophylaxis.

How shall we control the agonizing convulsive symptoms of tetanus? Do not forget the remarkable power of the combinations of morphine and hyoscine. Some years ago Stafford, after one interesting experience in H. O. Walker's clinic in Detroit, showed that these not only controlled the spasms but apparently increased the probabilities of recovery. They should be given a more general trial.

You want to quit a-layin-down
An' sayin' hope is over
Because the fields are bare an' brown
Where once we lived in clover.
When jolted from the water cart
It's painful to be hittin'
The earth; but make another start.
Cheer up, an' quit your quittin'.
—Washington Star.

HOW CAN I INCREASE MY INCOME?

In an editorial in the last number of CLINICAL MEDICINE, under the head, "Let Us Get Right Down to Business," we announced our intention of publishing a series of articles upon the topic, "How Can I Increase My Income?"

Next month we shall announce the articles already promised, with the names of their authors. We expect to make this the most important series dealing with the financial side of the doctor's career that has ever been published. We shall probably begin it in our November issue.

No doubt you have many warm professional friends who will want to read these articles. Why not do them a good turn by a word of explanation and persuading them to subscribe? Of course you will attend to your own renewal promptly.

BE MERCIFUL TO YOUR PATIENT

Whatever may be the ultimate signification of Crile's anoci-association doctrine, in its relation to surgical shock, it has at least served one exceedingly useful and practical purpose. It has called widespread—and let us hope, fruitful—attention to the esthetic and suggestive element in our dealings with our patients, especially in the domain of surgery. For years we have inexcusably neglected this factor. We have made the avenues of their approach to us, and the *entourage* of their experience with us, almost brutally shocking to their sensibilities—deliberately designed, it would seem, to emphasize the gravity of the occasion and to give the susceptible patient the impression of being ushered into some awful and mysterious ordeal.

In the case of a patient entering the hospital and preparing for a serious surgical operation, not only are no particular pains taken to shield him or her from the sight and sound and sense of all the dreadful, sickening paraphernalia of surgery, but, on the contrary, there seems to be a special conspiracy to parade it all before the victim's shrinking eyes and ears.

Thus, white-gowned nurses flit to and fro, in and out, carrying with them the atmosphere of sickness and emergency; uniformed internes make business-like visits, with the frankly avowed purpose of "getting the patient ready;" one hears the ominous rattle of instruments and smells sickly fumes of the anesthetic; not infrequently one catches sight of some other victim being wheeled to or from the operating-room; attendants carelessly discuss, in the patient's hearing, the details of other operations—commonplace enough to them, but unspeakably grewsome to the tremulous, sensitive mind of one who is awaiting a similar ordeal. In short, the whole atmosphere is charged with the awe of what is impending; there is a veritable procession of horrors. All of which may be flattering to the vanity and affectation of those who display it, but from the patient's viewpoint it is a piece of professionalism not far removed from quackery, and certainly not calculated to inspire confidence or conserve vitality.

There is no excuse, in these days, for such a brutal neglect of the psychologic demands of the case. All the healing-cults, which we profess to despise—Christian Science, mental healing, new-thought, and the like—have learned the lesson and put it into practice; perhaps have overdone it a little. Regular medicine alone remains heedless. Possibly its attitude has not been one of deliberate disregard, as of thoughtlessness. "Evil is wrought from want of thought more than from want of heart." It has been disposed to look upon this aspect of the thing as a trivial matter.

In view of the serious business upon which these patients come to us, forgetting that these folks are in just the condition of mind and body to be easily influenced and depressed by trivial things, Crile has given the lie to its apparent triviality, and established the importance of the psychic element upon a purely scientific and materialistic—one had almost said, a cold-blooded—basis. And in this, if in nothing else, his doctrines and experimentations have justified themselves.

There is a limit to such psychology, of course. Extremes are always irrational. No one wishes that the attitude and behavior of the surgeon and his corps of accessories, before and after the fact, should be one of irresponsible and frivolous trifling, as though there were nothing serious afoot at all. Such a course would be just as hysterical and irritating to the patient's overwrought sensibilities as the opposite course is morbid and depressing. Everyone knows how trying, under some severe mental stress, is the light-hearted, unfeeling prattle of an acquaintance who knows nothing of the strain we are under. To imitate that sort of attitude, would be foolish and futile.

What gives strength and composure in such times of stress is the ministration of a friend who knows, but who thoughtfully and tactfully relieves the situation of all its morbid, sombre *entourage* and sheds an air of calm confidence in the outcome. This should be the ideal at which our pre- and post-operative treatment of surgical patients should strive. "It is not death that men fear," said some ancient philosopher, "but the paraphernalia of death." The same is largely true of a surgical operation; and it should be the aim of our modern system to shield the patient from its horrible paraphernalia, both psychic and material.

We have emphasized the importance of this matter in surgery, because it is there that we doctors are guilty of the greatest neglect; and there, perhaps, that patients suffer most from our neglect. But the lesson applies in every department of medicine—in the arrangement and decoration and conduct of the doctor's office, in the matter of prognosis (many a sensitive patient has been psychologically, if not actually, killed by the abrupt announcement of his death-sentence, either verbally or as the doctor's expression), in the management of the sick-room, and, in short, in every relation between the physician and the patient.

Whatever we may think and whatever may prove to be the case concerning the direct effect of anoci-association upon actual surgical shock, nobody can gainsay the influence of emotions and sensibilities upon vital functions and resistance during the consciousness of the individual. And it is certainly an important part of the physician's business to utilize this psychic element.

Time was when grocers sanded the sugar and clothiers sold shoddy for honest woolen, and merchants lied steadily about their goods—asked two prices with the expectation of haggling and coming down—and the motto was "Let the buyer beware!" That time has passed with the majority of American business men. They have found they can make more money in the long run by telling the truth and asking one price.

—Dr. Frank Crane

BE YOUR OWN DOCTOR

One of the readers of CLINICAL MEDICINE, Dr. R. W. McCollum, of Farber, Missouri, sends us the circular of a certain concern which advertises a line of household remedies. As to the nature of these remedies, we have no way of knowing. They are to be identified by such terms as "cold remedy," "sore throat remedy," "kidney remedy," "stomach remedy," "worm remedy," "catarrh remedy," "whooping-cough remedy," etc., but the purchaser is urgently advised to use these preparations and "stop paying doctors' bills."

Having no information as to what these things contain, we are not in a position to say whether they are good, bad or dangerous. So far as we know, they may be excellent, but we are sure that no physician who is interested in the welfare of his patients would dare to suggest to any of the families whom he attends that they should use these unidentified drugs. For all we know, they may contain toxic or habit-forming drugs. Therefore, we would say to the doctor, should he be asked by anyone as to whether they ought to use secret remedies of this class, to answer, "No, don't use them."

However, that doesn't mean that your patient should get along without household remedies of any kind. However desirable it may be (and we all know that it is desirable) that your clientele come to you whenever thay have an ailment, no matter how slight, you can depend upon it that they won't. The average family cannot afford to send for a doctor every time baby has the colic or grandma has a cough.

This being the case, isn't it far better that the physician make it a practice to advise the people as to what they ought to use for the simple ailments? To place in their hands harmless remedies for the ordinary ills is far better than to let them spend their good money for all kinds of patent nostrums or such remedies as the too-obliging druggist may suggest.

You know what every family probably will need. Talk things over with them frankly, and see to it that they are supplied with such things as simple laxatives, harmless remedies for colds, something for the temporary relief of pain—until the doctor can come—something to relieve the baby's colic, a remedy for simple indigestion, and so on. However, in providing people with these simple remedies, always embrace the opportunity to explain how easy it is for the simple ailment to become a severe one, and warn them not to wait too long before calling in the doctor.

The physician who in this way keeps in touch with each family's minor ailments, and who is accepted as the advisor-in-general in all matters concerning their health, is in a most favorable position to prevent the development of disease beyond the point where it is difficult to control.

Nine-tenths of the mistakes in differential diagnosis are made by not looking and only one-tenth by not knowing—Dr. Charles E. Nammack, in The Medical Record.

COCKROACHES AS CARRIERS OF THE CANCER-GERM

From time to time there have been recorded in these columns accusations and proofs against various domesticated animals and insects as the conveyors of transmissible diseases; and the names of these mischief-breeders have been duly displayed in our annual indexes. To that growing list of insidious and unsuspected enemies of the human race now must be added the cockroach family.

The suggestion that cockroaches may disseminate a *contagium vivum* that induces the formation of cancer has of late been advanced by two European investigators independently and seems to attract some attention. Thus, W. Melvill-Davison, of Great Britain, believes he has ascertained that a certain alga gives rise to this malady, while at the same time he discovered the same vegetal form flourishing in the intestinal tract of the different species of blattidæ available for tests.

Dr. Melvill-Davison does not claim to have established positive proof for his hypothesis, but adduces, in corroboration, inferentially, the other fact, that at the biologic laboratory of the United States Department of Agriculture there has been isolated a specific vegetable parasite which Smith and Townsend feel confident is the causative factor in the production of plant-cancer. This, of course, merely hints at similarity of nature and origin of animal- and plant-cancer.

On the other hand, another investigator, Professor Fibiger, of Copenhagen, claims to have found in rats a species of worms that cause cancer in them, and that the larval stage of these worms is passed in the intestines of cockroaches. Here are two distinct charges against the cockroach. In this connection, it may not be amiss to point out that now even the common sparrow has come under suspicion of being a disease-breeder; merely, though, on general principles, because of its being a sort of scavenger about human habitations.

In the Miscellaneous Department, in this issue, will be found a practical and instructive contribution dealing with the habits of cockroaches, and the best manner of getting rid of the pest. It should interest every doctor, both in his private capacity and as the adviser in such matters in his community.

ITCHING: CAUSES AND CURE

Itch—not our childhood acquaintance, the venerable scabies "septennis," but itching, whether owing to urticaria, jaundice, eczema, intertrigo, prickly-pear, pruritis senilis, vulvae or ani, buckwheat, or whatever it may be. These and other maladies have this in common, that they itch.

What is itching? A peculiar form of irritation of the distal termination of the cutaneous nerves. Applying the Sherlock Holmes method, we should deduce from the fact of irritation the presence of an irritant. So, before attacking the malady directly, we pause to ask, Why the itch?

A European writer said that after exhausting his other remedies vainlessly upon anal

pruritis he bethought him of the possibility of parasites, with the result that since that time he commenced diagnosis with a search for such. That may do for Merry England, but in not a solitary case has this writer detected any kind of parasite, except in just one, when seatworms were found to be present.

Each of us really bases his views, not so much upon the correlated sum total of his experiences and his accretions of knowledge from without, as upon some one particular case that made a profound impression upon him. So, I never meet with a case of anal pruritis without remembering one especially aggravated instance, in which the itching was associated with a sacculated colon and retained scybala. The irritating product induced the itching, which was relieved only by the complete removal of the decomposing lumps.

Many times since then have sufferers from itching been relieved by the same measure. Always the treatment is initiated by testing the urine for indican, then washing out the colon with laxatives and flushes, until no trace of indican can be detected is kept up. Usually there remains nothing more to be done—the pruritis has ceased. This seems to be especially true of senile pruritis, which tends to confirm Metchnikoff's hypothesis of old age depending upon fecal retention.

So with vulvar pruritis—cure the endometritis, dislodge gonococci and other pests from the uterus and fallopian tubes and from the nooks and crannies in which these petty monsters take refuge. By local means? Yes; but supplement by saturation with calcium and arsenic sulphides—and by the same attention to the bowels demanded by pruritis ani.

The itching of jaundice is "something fierce." In the midst of the agonies of gallstone colic the patient has stopped lamenting long enough to beseech the doctor to get ready for the coming pruritis. This results from the irritation by the bile-elements in the skin. A full sweating dose of pilocarpine eliminates these and ends the itching—if the jaundice stops. But, if this has its origin in the obstruction of a hepatic duct by a tumor or other continuing cause, jaundice and itching both will recur.

Prickly heat, urticaria, and other forms of local cutaneous irritation usually are relieved by a hot mustard-bath. But in all forms of pruritis removal of the irritant by means of pilocarpine and removal of the toxemia by purging are indicated.

Diabetes, nephritis, and other maladies featured by defective renal function often are attended by itching. This symptom may direct attention to the grave malady underlying it and serve as one indication of the results of treatment.

Urticaria, chilblains, and so on, we formerly treated by elimination and local solaces; but Sir Almroth Wright has taught us that these maladies betoken a constitutional deficiency of calcium and are cured by the use of calcium chloride or lactate. True, but don't give calcium too long,or you may lose your patient through thrombosis of the cerebral sinuses. Moreover, calcium chloride is an intestinal antiseptic, and—*quien sabe?* We know something, ourselves, of the results following a well-made toilet of the intestines.

In all cases of pruritis, therefore, the underlying conditions must be studied. We *must* see to the bowels. Even in true scabies, dependent upon the acarus, there is something in the constitutional state, for some children among infected schools remain immune—and saturation with the sulphides is more effective and easier than the application of pounds of sulphur ointment or copper oleate. These will cure, yes, but they do not prevent acari from wandering back from the clothing and reinfecting the child.

The man who does not use the active principles in medical treatment is as far behind in the practice of medicine as the surgeon would be who tried to remove a stone from the bladder with a handspike.

—Dr. Joseph Haigh.

WHAT YOU SHOULD WRITE

He wrote of Lords and Ladies
(He lived in Arkansaw);
He wrote of untold millions
(A "V" filled him with awe);
His tales, indeed, were many,
His sales, alas, were few;
He wrote of things he'd *read about*
And not of things he *knew*.

A writer in *The Editor* makes this verse the text for a very pertinent homily anent the financial and other rewards which come to the writer who cultivates his own literary garden. It may not be a big garden; it may not be a particularly rich one; but, if you watch it closely, dig in it, water it, fertilize it well, you will be well rewarded for your labors.

The contributor to *The Editor* began by writing poetry, and stories "full of real imagination, flights of fancy, depths of feeling," but he found that the magazines did not want them. She was a school-teacher, and the verse above, when she read it, brought her up with a jolt—and the jolt did her good. Then she began to write about teaching and children.

She knew them, and her stories and sketches went like hot cakes.

CLINICAL MEDICINE is offered hundreds of "stories" every year, on all sorts of topics. We print as many as we can, but it is impossible to use them all, and when it comes to the point of rejection, we are forced to return to the authors those that in our opinion would please our subscribers least. We know that what our readers are most interested in are the *records of actual experience*. Fine-spun theories, flights of fancy, elongated records of things dug out of books, all may be well enough, but they can not compare in living interest with the story of a real achievement, told by the man who actually has done the thing he is telling about.

And, so, we ask you again, as we have so many times in the past, to *tell us of the things you know*. If you have treated fifty cases of ingrowing toe-nails, have mastered the difficulties, and know how to make good with this simple but troublesome ailment, then write us about ingrowing toe-nails. If you have dug up something that will cure, or measurably relieve, asthma (we are particularly anxious to know more about asthma), then write it up for CLINICAL MEDICINE. If you have devised a simple operation for hydrocele, or have tried one of the newer vaccines, or treated fifty cases or so of chronic bronchitis with the alkaloids, or have *done* anything else that has added to your efficiency as a doctor, tell the story, and *in the fewest possible words*.

You needn't worry as to whether it will be printed. Editors (even medical editors!) are on the lookout constantly for material of this kind.

Only those of us who do not know what medicines can do deny their efficacy.—Dr. Abraham Jacobi.

THE MANAGEMENT OF HAY-FEVER

The victim of that distressing malady, hay-fever, gets little sympathy. Everybody knows that it involves no danger; its objective phenomena excite amusement rather than concern; it occurs in folk who are well-to-do, eat too well, sit too much; and an attack offers an excellent excuse for a delightful trip to mountain or seaside resort, where the cynical observer also would like to betake himself had he the means, though perhaps under some different excuse. The consciousness, however, that he is being looked upon in this frivolous light further exasperates the unfortunate sufferer, who finds little exhilaration in uninterrupted sneezing and continuous running at nose and eyes. Blessed is the relief when he passes north of the latitude of Grand Rapids and sees the inviting shores of Petoskey or the historic isle of Mackinac loom into view.

But more than likely the ungrateful man refuses to accept the good the Gods confer, and asks himself why he should be condemned to exile himself from his Chicago den, where engrossing business interests must wait until he gets done sneezing.

Why should he? Why must a man struggle through life with this handicap, striving to hold his own among competitors who happen to be free from this affliction, and who are ready and eager to take advantage of his temporary disability?

Has modern medical science won such brilliant victories, eliminating one malady after the other from the category of incurable diseases, abolishing the yellow scourge of Panama, rendering the malaria of Egypt a tradition, and, yet, it can not help a fellow sneezing his head off? Go to!

The trouble is, that hay-fever is not a disease to be treated symptomatically, but, like poison-ivy, it must be traced to its etiologic factors and the last vestiges of its roots dug out remorselessly.

Shun all the unknown and much-lauded secret remedies—the temptation to slip in a little cocaine is too much for the nostrum-vendor. Why every hay-fever plutocrat is not a cocaine-fiend is a puzzle; for, the relief following in its wake is so certain, the harmlessness seemingly so evident (to the unknowing layman), and the formation of the habit so insidious.

Twenty-five years ago a brilliant young Philadelphia specialist succeeded in a series of cases by applying electricity in its destructive form to the offending nasal mucosa; but his success seems to have been forgotten. Local treatment, however, cannot succeed when the malady is merely the local manifestation of a constitutional vice.

It would seem that the factor of heredity were beyond our reach; still, a good authority recently has declared that we have overestimated the part played in our lives by ancestral influences. Habit and environment account for nearly everything. Yes, when the erstwhile danseuse becomes Her Grace the Duchess, it is not long until this product of the slums shows the manners of one to the manor born, and the only differential trait of her sons is the increased brain power derived from the cross.

Dealing with hay-fever, we may safely individualize the patient, and begin with him. Let him have Chittenden's demonstration of the small amount of nitrogen that one actually requires, and he may practice on the problem of ascertaining upon how little he himself can thrive. Drop out the caffeine beverages and prescribe oatmeal-water for drink, and order food that he has to chew. Teach him the physiology of nutrition. Indoctrinate him with the maxim of "clean out, clean up, and keep clean," for, if there is a solitary hay-fever person who is not autotoxemic, that individual has not appeared on this writer's horizon.

Use all your wits to find some form of exercise the patient will like so well that he will watch the clock for the time to drop work and get to it—golf being the first thought. Indorse the matutinal cold bath proposition, and get him started on it.

The foundation thus securely laid, we can begin to build. Break up the habit of sneezing by forestalling the annual attack for two years. Correct all nasal abnormalities, and restrain the tendency to turgescence by constringing the mucosa. Apply a chromic-acid solution, very dilute, at first, but increasing it to toleration limits. When the season of dolor approaches and before the patient leaves his home, begin to protect the vulnerable surfaces by spraying them with an oil solution of thymol iodide. This iodic compound is antiseptic, the oil coats and protects the surface, and sooths any beginning irritation. Should the discharge begin, despite these precautions, then order a spray containing suprarenal solution, combined perhaps with other indicated remedies; a full dose of atropine, preferably in combination with quinine and camphor, helps to dry it up.

Do not fail to look for the defects of elimination that lie at the root of so many of these recurring ailments. That oft-repeated advice to "clean out, clean up, and keep clean" is just as necessary here as elsewhere, and we can make no mistake in stirring up that great, important, but little understood organ —the liver. That good old-fashioned remedy, calomel, may well be reinforced by podophyllin or other cholagogs.

Also, do not overlook the value of the alterative drugs—for generations we have recognized the merit of iodine, arsenic and quinine, and we know how the fighting hosts of the body are reinforced by nuclein. And it is a striking fact that, when urinary examinations are made, many of these patients show the presence of an acid intoxication, probably of long standing; and of course this demands attention.

While the pollen of various plants has been indicted as the specific cause of hay-fever, the evidence that it is the sole cause is not quite convincing. No doubt it is an etiologic factor, but there are probably others of a bacterial character, still unrecognized. Why do not more of you experiment with bacterins—especially with autogenous bacterins? There seems to be here a fertile field for constructive work for many members of our great "family"?

The writer is inditing this message from the lake shore near Muskegon. In the colony now assembling are four hay-fever victims. None of these is affected while sojourning here. I do not attribute much influence—except, maybe, the psychic factor—to the air wafted from the lofty pines that sway so gracefully over our heads, but (and, pray, don't let the ladies hear us!) a great deal to the physical work they do. But every one of these ladies is busily at work from dawn to night, engrossed in building, decorating, improving, planting, cultivating, creating homes out of the virgin wilderness, gathering wildlings—berries, flowers, firewood. Forsooth, the pioneer forbears surely have left their traces in these women. In very truth, they have not time to think of ailments, going to bed each night thoroughly and delightfully exhausted, while the morning-dip in the nearby lake has an ever increasing number of devotees.

The remedy for hay-fever? Revert to pioneer conditions; make a home out of a wilderness; levy on nature for its treasures; forget for a spell the luxuries and demands of modern civilization.

Here comes our own "hay-fever" victim now, panting with her climb to the top of the hill where we have perched our home! She drops into a chair; cheeks glowing, eyes sparkling, health and happiness in every line and movement.

"Where have you been?" "O, in the valley back; and just see the wild strawberries we found. I never knew there were so many blueberries as we saw. And we found a lot of grapevines, tame ones gone wild and also real wild ones—the wild ones make the best jelly; and when you have cut out the brush the ground is seen covered with blackberry bushes; and I must find out what can be done with all these wild cherries and the June-berries, and the woods are full of mushrooms and some of them must be good to eat; there's lots of young sassafras and you

must dig some roots to make tea; and we had nineteen fish in the net this morning; and the lettuce and radishes grow faster than we can eat them; and I've dug a lot of wild honeysuckle to plant about the porch; and we found a whole patch of pink orchids, ladies' slippers; and that wood that twists so curiously is witchhazel, and Bobby is going to make table legs out of it; and the pine squirrels eat right out of my hand— — — —" I fled! How can a woman who was just gasping for breath talk a blue streak for a quarter hour without so much as a comma punctuation!

Treasure your exceptions. When there are none the work gets so dull that no one cares to carry it further. Keep them always uncovered and in sight. Exceptions are like the rough brickwork in a growing building, which tells that there is more to come, and shows where the next constructive work will be.—W. Bateson.

KEEP ABREAST OR IN FRONT

It is good for a man to be recipient, to be yet able to see good in any shape in which it may be presented to him, to sink his own personality to the point where he can study the other man's view and estimate the value of his arguments.

Likewise, it is bad for a man to be so possessed by his own hobbies that he is unable to give just consideration to others.

We have bumped about this old world enough to realize that, however smart we are, however wise, learned, far-seeing, there are others. As we grow older, the more fervently we hope that, in the end, when the great final accounting shall be made and the business of our existence be wound up, we may be found not hopelessly below the average of our fellow-men—that we even may touch par.

Well, to tell the truth, our life has been filled with so many blessings that we sometimes feel that for every little bit of good we have done we have been so generously compensated already that there will be only the debits to show at the last. Try as we may to find opportunities for entering credits, and we get more hopelessly in debt. A child, crying bitterly, we seek to soothe his grief, to relieve his pain, to chase away his tears; and, behold! he decorates us with the priceless jewel of a child's love.

Which shows how far afield a man may wander.

We started out to call attention to the danger of one's becoming so absorbed in his own pet hobbies that he can not give justice to others. Now, we have been suspected of a partiality toward the alkaloids, and the development, through them, of a really scientific therapeutics. In a measure the accusation is true; but when it comes to the accusation one time often made, but not recently—that we advocate nothing but the use of active principles, it is not true, and never has been.

Possibly—probably—we should have fallen into that error, but for our close association with the vast body of American physicians. This journal accomplished this; and of all our works THE ALKALOIDAL CLINIC, later expanded into CLINICAL MEDICINE, has been the most valuable.

We find a new hobby, mount, and ride it like John. Pretty soon there comes from a reader the warning hail, "Pull up!" We ride on. But here another reader, then yet another, from this side and from that, comes the cry, growing into a chorus, and we do pull up. Others have their hobbies, too, and invite us to take a ride. We sometimes accept, and so our hobby-stable grows populous. Father Coleman invited us to ride on his steed, calcium sulphide; Lawrence, on his, calcidin; Aulde, on nuclein; Croftan, on calcalith; somebody else, on the sulphocarbolates; and so down the line. None of these drugs was an alkaloid, but they all proved of value and we adopted them.

Meanwhile, the body of the profession was following along the lines of development opened by the laboratories. The scientific methods of the chemist led to the precision of diagnosis, replacing the old-time guessing by mathematic certainty—the modern way of telling the time by a watch. Physiologic chemistry also developed the organic products, serums, antitoxins, opsonins, bacterins. We could not be in close touch with the great body of practicians and remain blind to the value of these and other agencies.

And, so, we still advocate the alkaloids, and the rest of the active principles, and we urge the necessity of laboratory diagnosis and of serum and bacterin treatment. For we are active-principle advocates, surely; but, before and above that, we are physicians.

ASTROLOGIC FOREBODINGS

Does error ever die? Is not superstition immortal, unkillable, indestructible as matter itself? Do we not hesitate to initiate aught on Friday, because it is unlucky, thus perpetuating the tradition that looked upon Saturday (Saturn's day) as unlucky, because old Saturn was grouchy over having been dethroned by Son Jupiter? For unnumbered

centuries—yes, before Adam—this belief held sway. With the spread of Christianity, the traditional ill-favored day was changed to Friday, just as Yule became Christmas and the Saturnalia were renamed the Carnival. Truly, the nature of man changes not at all; although he periodically puts on a new suit of beliefs and language.

An astrologer has predicted dire happenings for the next month, or so. The sign of Gemini ruling the country, Mars entered Gemini July 29, and proceeded to kick up trouble. Wars, rebellions, riots, strikes, hurricanes, and fires, also epidemics of smallpox, scarlet, typhoid, and yellow-fevers, possibly cholera, are among the gloomy prognostications. The timid may easily find corroboration. The sign of Gemini! And is not Woodrow's pat exclamation: "Oh, Jimminy!" and is not a Mexican city known as Jiminez? (Now don't pronounce it, please, or you'll spoil the string.)

Yes, we all smile indulgently over the silly folk who allow themselves to be influenced by those absurd superstitions. But—do *you* begin a journey on Friday; do *you* remember the fortune-teller's predictions; do *you* walk under a ladder or look at the new moon over the lucky shoulder? Honest, now?

The proofreader of this journal, who has imbibed much wisdom from working over our writings, once in the list of starters for a race noticed an error in the spelling of the name of one horse. Taking this as a tip, she put up a bet on that horse—and won twenty dollars!!!

No concessions ought to be made to the prejudices of maternal psychology in the treatment of babies, to whom bottles (with the one exception) are about as much use as a good bedside manner to a sick cow.

—Sir Horace Plunkett.

PARALYSIS AGITANS: THERAPEUTICS

When street-cars were first proposed in Philadelphia, the medical profession of that devolutional burg met in solemn conclave and adopted lugubrious resolutions condemning the innovation unreservedly and predicting the direst consequences in the way of originating and aggravating disease.

The fat fields of Pennsylvania breed content; the rocky hillsides of New England compel enterprise. The starving Highlander robber is glorified in poesy; his prosperous, well-fed prey of the Lowlands has never an apologist, scarcely a sympathizer.

We have before us a letter so characteristic that we feel impelled to quote from it some lines. One of the wise things Hahnemann said was, that no clinical records were more valuable than those made by physicians upon themselves as patients. One correspondent, a doctor of no mean caliber, one far above the average, professionally, suffers from a form of paralysis agitans. He writes:

"I am still alive, but when not using hyoscine-morphine each twenty-four hours I am shaking like an auto-car when standing still with its motor running. Life is practically unendurable; for, besides this awful tune-toning tremulousness and agitated state, when meeting a friend there comes over me an almost rocking, gigging (like fearful stage-fright, with back-head ache, convulsive and guy-rope-head-to-neck-and-shoulders feeling to cap it), which, with loss of use of hands, so that I no longer alone can wash, dress or feed myself, makes life a burden."

"I have dropped all but a 7 to 10-day dose of sodabin [?], 5 to 10 grains, having found my system won't do its work so well without it; kept bowels pretty well washed out with enemas; then the hyoscine-morphine combination which I had used to aid me when still able to work. When there has been a toxic feeling —possibly accumulation of hyoscine—I have been amazed by a furring or exfoliation of the skin, which is controlled with hydrogen peroxide, but, better, by drinking lemonade. This leaches out the accumulation, almost 'right now'; the change being marked in general feeling. Drinking 1 to 4 glasses of ginger-ale in the afternoon brings the change about right. I think this alkalinizes the blood-stream, making possible a hurried elimination of the morphine, maybe of the hyoscine. Larger doses are then required. It is a nice way of getting rid of the 'overdosed' feeling a hyoscine patient has.

"I believe I have discovered in vibration properly attuned, and sufficiently and satisfactorily used in conjunction with stretching, light-baths, passive movements, the agency needed to make shaking palsy curable.

"When I am convulsed and feeling most miserably miserable, as if I were going all to pieces if not immediately 'cut loose somewhere'—bones aching and begging, shaking till I can't talk, every nerve and muscle strung to the breaking point—when all this is so real that one feels he can't possibly stand it, I can mount a running horse or an auto over a rough road, and almost instantly have my state transferred from a hell to a heaven. Senility vanishes for the optimism of boyhood. Until the car stops I am able to jest, laugh, and feel my natural self, even as I am not when relieved by coffee and a sedative. Shaking the hands is very, very grateful to me.

The motor-driven vibrators, properly used, perhaps do some good, but very little. They can not be geared down slow enough, the stroke lacks body and length of wave. I feel certain of having discovered key-notes to measures of treatment that may give relief in early cases, if not even effect a cure."

Dr. Rees does not mention the street-car, but we assure him he may secure vibration from it quite as rough, often, as from an automobile over a corduroy road. There's something real, something alluring, yet elucive, in this record of a doctor's individual experiences. We suggest that the victims of paralysis agitans constitute themselves a collective-investigation committee to work out the problem.

No one gets very far, ever accomplishes anything very great or really worth while in life, who spends time worrying over what people will say about him. People, as a whole, are much alike. Envy and jealousy are always ready with their poison-venom, and will have their way. The thing to do (but always given a clean life and a clear co science) is to buck up and go ahead—and "keep a pullin'."—Dr. W. C. Abbott.

IMBREEDING-DEGENERACY AS A CAUSE OF BRONCHOCELE

While the "geologic," i.e., water-borne, theory of the causation of goiter is the more generally accepted one, the number of skeptics and investigators appears to be rapidly multiplying; and so are the explanations. Probably the latest suggestion is that advanced by Dr. Sittmann, who, taking issue with Dr. V. Kutschera, and others, some months ago addressed the Medical Society of Munich on this subject; and it seems worth while to reproduce in substance his ideas, as they are found quoted in the *Muenchener Medizinische Wochenschrift* of April 22.

In the first place, Dr. Sittman maintains that—as so often—we must look for more than one single cause productive of thyroidism, whether drinking-water be concerned, or not. However, so many facts often seem to militate against the water-theory that he is inclined to consider the adduced proofs more as coincidences.

Next, Dr. Sittmann agrees with others, ethnics may play a role some races possibly being more liable to the lesion than others. Thus, Kutschera himself points out how, for instance, goiter and cretinism are common in all those districts of the Alpine province of Vorarlberg in which 500 years ago there settled inhabitants from the canton os Valais, and which then was permeated with strumous disease. Those immigrants have so preserved their individuality that they are instantly recognized as Wallisians, that is, of the stock of Valais, or Wallis. On the other hand, the neighboring Rhaeto-Roman stock of Montafon are free from these disorders. Similarly, the Romance inhabitants of the Vintschgau, in the upper valley, are badly affected, while the Goths of the district of Meran are immune.

Now, the new theory of the etiology of thyroidism—at least as the principal cause among others—advanced by Sittmann is the degeneracy incident to imbreeding. His proofs are taken from observation and from his practice; and ethnology is not sufficient to explain the facts, as, possibly, such as those adduced in the preceding paragraph.

Looking over the field, Sittmann was struck by the predominating prevalence of goiter and, more especially, of Basedow's disease, i.e., exophthalmic goiter, in the lowlands of northeastern Europe, the Baltic provinces. But, so far as determinable, this condition affects almost exclusively the upper strata of the populace, while the lower strata are almost exempt. Now, however, the latter element, the socially inferior, is the indigenous, and of Slavic type, while the upper, physically defective classes belong to the Germanic race.

And here is where Sittmann finds the postulated factor of phylogenetic degeneracy. For, he points out, while the Germans invaded and subdued these lands of the Baltic coasts more than 700 years ago, they preserved their stock uncontaminated among the nongermanic races. This, however, could be only by constant intermarriage within their kind, so that a widespread consanguinity must at present obtain among the ruling class of that region.

And here is the second assumed proof for this degeneracy-hypothesis. Race-constancy of a new type can be attained within a relatively brief period of time only by frequent and constantly repeating imbreeding of the breeds to be amalgamated. Then, if we take a recent but already stabilized breed of animals and within this new race begin to pair consanguineous individuals of highly specialized strains, then it may happen that besides one or two young ones showing certain advances along the lines desired by the breeder, within a litter of this kind there will be found a number of individuals exhibiting phenomena of pronounced degeneracy. As some of these stigmata of degeneracy among these interbred animals, the author mentions, above all, bronchocele, and commonly associated with this also psychic defects or anomalies of bone growth. Loss of pigment also

occurs. But, it is averred, other degenerations are in evidence.

The author's experiments were performed largely with fox-terriers—a race that has become fixed only within forty or fifty years; and repeatedly he has obtained as many as four goitrous whelps within an otherwise racially highly developed litter of young terriers.

This observation applied to man, one soon becomes aware how many of the regions known as goitrous are such where the inhabitants have been cut off from the world, especially before modern travel set in; and where little, if any, foreign blood was infused, so that imbreeding has been the rule for many generations. This certainly does seem to account for the great prevalence of goiter, exophthalmos, and cretinism in the secluded mountain-regions, and for which calcareous waters have been accused. The Algaeu region of Switzerland and Suabia, with its manifold, noncretaceous, geologic formations, offers a good proof in this respect.

IS CALCIUM UNREMOVABLE?

A correspondent who signs himself "an aging subscriber" refers to Dr. Waugh's paper entitled "That Thy Days May be Long" and asks: "How can the body rid itself of the surplus calcium stored in the tissues of the aging man?"

One might reply by saying that the one need is, to live physiologically. Study your own case from the point of appreciating your vital resources and so conserving them as to insure the longest possible life, healthy, enjoyable, and useful. Study your digestion, your elimination, your assimilation.

Arrange diet, drink, exercise, mental occupation, recreation, bathing so as to meet exactly your individual requirements. Eschew worry, fatigue, excess. Don't be anxious to appear young or unwilling to acknowledge your years. Maintain the physical and mental energies by appropriate exercise. Don't let yourself fall into the doddering senility of the superannuate. Find the method of being useful and ever of consequence, suitable to your abilities, and conditions. The active man keeps young, the one who permits old age to render him slothful stiffens and cramps.

The digestion—the whole alimentary tract—needs extra care, for the gradual senile debility begins here. "Clean out, clean up, and keep clean;" not by continued purging, but by the mildest methods possible, varied, to avoid habit forming. Fasting, varying the habits so as to give the arterial coats exercise, avoidance of rigid routine, are important. Travel is ideal to prevent routine.

Let the lime alone. Don't induce debility by attempting to dissolve it out; but prevent further deposition of the mineral. There is more value in Metchnikoff's wild hypothesis than has generally been admitted. Drink sour milk, partake of the Bulgarian ferment. Drop the caffeine beverages and return to the oatmeal of your youth.

The present writer would like to form a club of men over sixty, to discuss, compare, and exchange experiences and suggestions. Can we do this by a correspondence-bureau? Or, else, should we organize, have a dollar annual dues; and publish a journal? Men like Nascher, who make geriatrics a specialty, should contribute; and the editor should search the periodical medical literature of the world for data on this matter. Why shouldn't the aging have their special attention as well as the children, the neurotic, the other classes of ailing humanity?

Time brings only one regret—that we had not more joy in the things that were, more belief, more patience, more love, more knowledge of the way things work out, more willingness to help toward the final result.

—Jennie June.

THE ROLE OF THE BILE

Roger, of Paris, contributes an interesting "discourse" concerning the bile, to the April, 1912, number of *The Universal Medical Record*. After discussing the action of bile upon the digestion of fats and albumin and the multiplication of the bacteria in the intestinal canal, he makes some interesting remarks upon its action on mucin, a few paragraphs of which we venture to quote.

"Under normal circumstances the walls of the intestine contain a ferment—mucinase—that coagulates mucin, causing it to pass from a liquid state to that of obvious masses. Now, bile opposes this coagulative ferment action, as a very simple experiment clearly shows us. Into each of two tubes let us pour a little mucin in watery suspension. One tube we will keep as a control; to the other we will add either some fresh bile or, what is equally effective, some bile that has been heated in an autoclave. The action of bile is not modified, be it noted, by heat. Well, into each of these two tubes let us pour a few drops of a glycerinated extract of intestinal mucosa. The contents of the control-tube become cloudy, in accordance with the

strength and activity of the exact mixture employed, losing transparency with greater or less celerity; sometimes almost at once; but, in other cases, it is not until after an hour's incubation in the warm that a grumous mass is thrown down, the supernatant liquid then remaining clear.

"If we now take this clear liquid and to it add a trace of acetic acid, although before the ferment had acted a copious precipitation would have taken place, there occurs at the most a trifling cloudiness, for the mucin present has been in great part, or entirely, already thrown down by the mucinase.

"But with the tube to which bile has been added the result is quite otherwise. If much bile and little ferment is present, no precipitate occurs on adding the acetic acid; though, if the bile has been added in insufficient proportion, at the end of twenty-four or forty-eight hours there may be some cloudiness or a slight deposit.

"We can now well understand how it is that mucus remains liquid in the upper bowel, and why, when it coagulates, it does so in the lower portion of the alimentary canal. We can also realize how it is that the pseudo membranes of mucomembranous colitis are produced. They are the result of coagulative processes which may be ascribed, sometimes to biliary insufficiency, sometimes to a superabundance of mucus, and sometimes to an excess of mucinase.

"It is doubtless true that, as M. Riva has shown, in health the feces do not contain mucinase. But this is not the case in those who are the subjects of mucomembranous enteritis: with them it is found that the ferment is present in amounts proportional to the quantity of mucus. Similar findings have been reported by M. Trémolières. He tells us that in animals, as in mankind, mucinase is only present in the feces under pathological conditions.

"These experimental findings will support some therapeutical deductions. It it be true that bile hinders the coagulation of mucus, clearly, the prescription of oxgall is indicated for those patients who suffer from mucomembranous enteritis. Certainly, by means of such treatment we cannot be said to *cure* the affection; but at least we may hope that the false membranes will disappear and that the pangs which attend their expulsion will be somewhat assauged."

Instead of using crude ox-gall, a disgusting therapeutic product, which tends to putrefaction and as found in the pharmacies inevitably smells to high heaven, the progressive physician will surely employ the purified bile-salts which are now available on the market in very elegant forms. This remedy should be employed in connection with other indicated therapeutic measures, particularly thorough cleansing of the bowel by the daily high enema, in every case of mucomembranous enteritis.

THE USE OF BACTERINS IN CHRONIC BRONCHITIS AND ASTHMA

A number of troublesome cases of chronic bronchitis, recurrent in character and resistant to all ordinary methods of treatment, are described by J. H. Harvey Pirie in *The British Medical Journal* for June 14, p. 1268.

Cultures were made of the organisms found in the sputum of these patients, and in these, pneumococci and the micrococcus-catarrhalis groups were found to predominate, while streptococci, staphylococci, Friedlander bacilli and micrococcus paratetragenus were present in a goodly number of instances. In all, 16 of these patients, were treated with autogenous bacterins. Of this number, 7 were practically cured; 4 were markedly improved, in 4 more the improvement was only slight, but in only 1 case was there no improvement.

Dr. Pirie strongly advises that, before winter sets in, all individuals who are subject to recurrent colds should receive protective inoculations against those organisms to which they are especially sensitive. Either autogenous bacterins may be employed, or else one of the socalled combined bacterins for colds that are on the market. The bacterin is not recommended to the exclusion of regular medicinal measures, but rather as an adjunct to the indicated local and general treatment.

Pirie also treated 15 sufferers from asthma. In all these persons pneumococci were present, and numbers of the micrococcus catarrhalis were present in 14, while staphylococci, streptococci, Friedlander bacilli, diphtheroid bacilli, and so on, were found in others. From these 15 cases, 6 must be excluded, because treatment was too short to secure permanency of results. Of the remainder, 7 were practically cured and are now free from asthma; 5 being considerably improved, 1 showing only slight improvement, and 1 was not benefited at all.

The author believes that the value of bacterin treatment in such ailments is very fairly indicated by these results.

Leading Articles

The Treatment of Sexual Neurasthenia

By WILLIAM J. ROBINSON, M. D., New York City

Chief of the Department of Genitourinary Diseases and Dermatology, Bronx Hospital and Dispensary; Editor of The Critic and Guide and The American Journal of Urology; Author of "Never-Told Tales" and other works

EDITORIAL NOTE.—In this paper Dr. Robinson completes the discussion of Sexual Neurasthenia, begun in the May number of this journal, page 393. In this installment treatment only is considered; for the discussion of the etiology and symptomatology we refer you to the first portion of the article, which should be read with care by everyone.

IN A FORMER issue I discussed the etymology and symptomatology of sexual neurasthenia. In this issue we will consider the treatment of this most important affection.

To treat sexual neurasthenia successfully, we must, of course, know the cause of the neurasthenia, and the kind or type of neurasthenia we have to deal with.

The Two Types of Sexual Neurasthenia

To attempt to put each variety, each different type, of sexual neurasthenia in a special rubric and designate it by a special label, would be a thankless task. For the varieties are numberless and run into each other by imperceptible gradations. But, still, we are justified in recognizing two principal types of this disease. And the type to which our patient belongs will materially influence our prognosis and treatment.

To define the two types briefly: In the first type, the neurasthenia is produced by the impotence, or the neurasthenia and the impotence are the results of local causes; in the second type, the impotence with its concomitant symptoms is the result of the neurasthenia. To put it in other words: In the first type, we have the sexual trouble or abnormality first, the neurasthenia after; in the second type, we have the general neurasthenia first and the sexual trouble after. And we must remember that there are numerous intermediary types, that is, cases in which both causes are exerting the evil influence at the same time.

To give some brief illustrations

Case 1. Man, age 30, almost completely impotent (very weak erections and immediate ejaculations) and typically neurasthenic. History shows excessive early masturbation, then rather free sexual indulgence, then three attacks of gonorrhea; the last one about two years ago. The impotence has been coming on gradually during the past year, and the neurasthenic symptoms, so far as he remembers, during the past six or eight months. His financial condition is excellent, he is entirely independent, he has nothing to worry about, his life runs in rather pleasant channels. He has always been gay and jolly, but lately has been feeling as if his life were not worth living.

Even before examining the patient I make my mental diagnosis of definite local trouble, with neurasthenia as a consequence. Of course, the impotence in a man, with theatrical connections, who was in the habit of "having all the actresses and chorus girls he wanted" and who now under one pretext or another must avoid them, is alone sufficient to induce neurasthenia.

On examination, I find an extremely congested posterior urethra, a swollen colliculus seminalis, also a slight stricture and an enlarged and extremely sensitive prostate gland; light pressure brings forth abundant catarrhal secretion. I give him a very encouraging prognosis; and massage of the prostate urethral sounds and dilators, the psychrophore, instillations of silver-nitrate solution, and then cauterization with the

same solution, but 20-percent strong, bring about in six months a complete cure both of the impotence and the neurasthenia. There was practically no treatment of the neurasthenic symptoms proper.

Here we have a clear case of sexual neurasthenia, resulting from local conditions and disappearing with the cure of the local conditions.

Case 2. Almost complete impotence and severe sexual neurasthenia. The patient presents a goodly number of the symptoms characteristic of the neurasthenic. The history shows moderate masturbation between the ages of 14 and 17, then moderate indulgence between 21 and 25 at which age he married. Never had any venereal disease. Lived a regular, moderate life and was perfectly potent for ten years. The impotence first showed itself in a diminished libido, then gradually the erections became very weak and the ejaculations premature. Has to urinate very frequently.

Questioning brings out the fact that the last three years had been very hard for him. All his savings, which were considerable and which he invested very profitably in real estate, were swept away during the panic, so that now, at the age of 38, he finds himself as poor as he was at the age of 20, and has to hustle for a living, when he thought he would be able to take it easy. Then a boy in whom they had great hopes turned out badly and is a source of humiliation to the family. His wife also died a year previously. I at once recognized that I had to deal here with a case of neurasthenia to which the impotence and the other sexual and urinary symptoms were secondary.

An examination shows the genital organs, the urethra and the prostate gland normal. Here I know the treatment will have to be principally of a general tonic and psychic character. If I do give him local treatment, it will be either for its psychic effect, or it will be only by the means of the psychrophore, because that has a general tonic effect.

Treatment Relatively Simple

Bearing these two general types of sexual neurasthenia in mind, the treatment of this disease becomes relatively simple. Where the local symptoms predominate or where they are the cause of the disease, they must be treated energetically, before we can hope for a cure. At the same time general tonic treatment, proper diet and hygiene must not be neglected. Because, even if we do cure the local symptoms which brought about the neurasthenia, it does not necessarily mean that we have cured the latter.

In many instances removal of the cause removes also the symptoms; but not in all. A local patch in the urethra that brought about neurasthenic symptoms may be cured; yet, the neurasthenia may persist, because the nervous system has, in the meantime, become so weakened or irritated that it requires treatment before it is brought back to its normal condition. While, on the other hand, if the sexual trouble is secondary to a general neurasthenia, we have to turn our principal attention to the latter, without, however, altogether neglecting the former.

The local conditions or sexual disorders which may be responsible for sexual neurasthenia have all been described and their treatment discussed in former issues. It is useless, therefore, to repeat that when we find a granular patch in the urethra it is to be treated and how it is to be treated, or, if the patient have pronounced prostatitis, then that is to be treated, and so on. We have also discussed the treatment of the more or less local neurasthenic symptoms. A few additional words, however, may not be amiss in regard to the general treatment of the general neurasthenic condition.

Importance of the Psychic Factor

It is here that psychic treatment is of great importance. The very first step in successful psychic treatment is the establishment of a satisfactory relation between the physician and the patient. It goes without saying that this must be one of complete and unquestioning confidence on the one hand and real sympathy on the other. If the physician finds that the patient is skeptical or even suspicious about his methods of treatment, and if he is unable to change this attitude quickly into one of complete confidence and reliance, he might as well give up the case. He will not cure or benefit his patient. Without confidence, everything will be going wrong; even the local treatment which in hundreds of cases has done you good service will in the suspicious and antagonistic patient seem to do actual injury. With complete confidence instilled, everything goes smoothly.

The first opportunity you have to establish or to increase the patient's confidence in you is when you take his history. An experienced physician knows, of course, many or most of a neurasthenic patient's symptoms, and it is remarkable how his confidence in you, and his respect for you, grows if while taking his history you yourself, without asking him,

recount his symptoms. The fact that you seem to read him like an open book is an important factor in creating in him a high opinion of you. Next, the examination must be very thorough—every part of the urogenital system amenable to examination should be examined, digitally, by the urethroscope, with bougie, microscopically, and so on. Then a thorough general examination is to be given: the urine must be examined, the heart listened to, the blood pressure taken, the reflexes tested, and so on.

This thorough examination has a double object: first, you may find out things which you did not suspect, and, second, it shows the patient that you understand your profession, that you take an interest in your patients, and that you are thorough; all of which increases his confidence in you—a *sine qua non* in treating neurasthenic patients.

After having ascertained the patient's exact condition, we have a good talk with him—and a good deal depends upon that talk. How many times have I seen a patient leaving the office looking ten years younger than when he came in, with a spring to his walk that he didn't have for years and a hope in his breast where everything was hopeless and cheerless for months, perhaps for years! How many times I heard them say, "Doctor, you have lifted a heavy burden from my mind and I feel again that life is worth living." Some even go so far as to exclaim, "Doctor, you have saved my life."

In this preliminary talk I explain to the patient the nature and stage of his disease—I have always believed in doctors taking their patients into their confidence—I tell him that I can help him only if I have his full cooperation. I tell him that I cannot guarantee to cure him—only quacks guarantee cures—but I shall try my best and hope I shall be successful. But of one thing I can assure him positively, and that is, that I shall quickly benefit and improve him. I know that his will power is weakened—this is one of the characteristics of neurasthenia—but I exhort him to collect all the little will-power that is left in him and that is, perhaps, lying dormant, and so to help me to cure him.

I cannot improve his financial condition, I cannot remove the various external factors which cause him to worry and to be unhappy; but I show him the utter futility of merely worrying. I tell him that, if he thinks that worrying will improve matters, that he may go on worrying from morning to night and from night to morning, but such useless, purposeless worry only makes matters worse, and, indeed, very often is nothing but a habit, the same as "fussing" and getting angry is a habit, from which one can break himself or herself if he or she has a really earnest desire to do so.

One would be surprised to see what effect this commonplace, one might say platitudinous, little talk has. A goodly number of patients have told me that this was the turning point in their lives. And many go away firmly resolved not to worry, once assured that worry does no good, but simply to do the best they can. And this is already one good point gained.

The Treatment Proper

Having gained the patient's confidence and assured ourselves of his cooperation, we make an outline of the treatment proper.

In some rundown neurasthenics, the first thing to do is to put them to bed for a week or two and feed them up. This is almost a *conditio sine qua non*. Of course, where the patient cannot possibly afford this, we have to do without it; but the time treatment lasts so much longer, the results are so much slower in coming that we should do our utmost to convince the patient to take this preliminary rest; for the entire nervous system and the heart will take a good rest and the results of the other treatment will be so much more striking. The diet should be nutritious, but not stimulating. Alcoholics should be eschewed. Plenty of milk, eggs, and meat; but spices and condiments sparingly. While the patient is in bed, he should be given general massage, alcohol-rubs or cold-water spongings. If he cannot stay in bed, he should at least take the massage and the rubs.

After the patient has had his rest, hydrotherapy will play an important role. At first we may have to order warm baths only; but gradually the temperature of the baths should be reduced or the warm bath should at least be followed by a cold douche. A thorough dry-rubbing should follow each bath. At first the rubbing should be given by another person, but, as the patient gains in strength, he should attend to this himself; it gives him a certain kind of exercise.

Exercise is generally prescribed for all kinds of neurasthenic patients; however, in my opinion, exercise with dumb-bells and clubs in a closed room is of little benefit to neurasthenics. It often does more harm than good. Walking in pleasant and, if possible, new places is beneficial, but it must be done in moderation, being increased gradually; and fatigue is to be avoided, by all means. Driv-

ing or automobiling, sternly repressing any attempt of giving in to the crazy speed-mania, is very beneficial, but under no circumstances should the patient himself hold the reins or the lever. There must be no strain, and the driver or chauffeur must be so competent and reliable as not to give rise to any nervousness on the patient's part. Sea, river or lake bathing is positively beneficial. Of course, in the beginning a very strong surf must be avoided, and the patient must never be chilled. Bathing on cold, gloomy or drizzly days, therefore, is better taboo.

Genial Occupation and Environment

If the patient must work for a living and must stick to an occupation which is distasteful or even hateful to him, we are helpless. If the patient can afford it, though, he should select a congenial occupation; and more, if his means permit the time or the luxury of a hobby, he should be advised to indulge in it. It is even advisable to make him create himself a hobby.

Sometimes no measures will benefit a sexual neurasthenic until he has made a complete change of environment, climate or country. And there is no single measure so beneficial in sexual neurasthenia as is an ocean voyage; its effects are sometimes truly remarkable. I have known cases where an ocean-trip across the Atlantic and Mediterranean, with say, two weeks of traveling in Europe, brought about a complete cure both of the sexual neurasthenia and of the sexual impotence that was the result of it. And this without local or any other treatment.

If, however, there is anything that shows conclusively the necessity for individualization, individualization, and again individualization, in the treatment of sexual neurasthenia, it is the effect of ocean-trips. For just as an ocean-voyage is beneficial and indicated in properly selected cases, so it may prove injurious in improper ones. I have known patients who were very greatly injured by an ocean-voyage. If a man in an extreme stage of neurasthenia, unfamilar with any European language, goes to Europe alone, without wife, relative or friend, has a rough voyage, is perhaps deathly seasick, has no one to take a walk or to exchange a word with, then you cannot expect him to come home cured of his neurasthenia or the impotence. The likelihood is, that both will be aggravated.

Still, this fact does not militate against sea-voyages being one of the sovereign remedies in sexual neurasthenia. I will reiterate, though, that it must be ordered with discrimination, in properly selected cases, at the proper time of the year, and only, as a rule, to be undertaken in company with somebody —a loving and congenial wife or some congenial companion.

The Drug Therapy

The drug treatment of neurasthenia plays a secondary role, and what we said about drugs in the treatment of impotence applies with almost equal force here, except that we would emphasize the great value of strychnine.

Some consider strychnine *the* sovereign remedy in neurasthenia. Somebody has said, "what morphine is in painful conditions, strychnine is in neurasthenia." I give it here, the same as in impotence, in large doses, and frquently hypodermically. It is here that the compound syrup of hypophosphites, the compound glycerophosphates, lecithin, neuro-lecithin, and similar preparations prove signally beneficial. Arsenic often works wonders. The following simple combination is very good.

Arseni trioxidi.....gr. 1-30
Strychninæ sulphatis.....gr. 1-20
Calcii glycerophosphatis.....grs. 2
Massæ ferri carbonatis.....grs. 2
M. F. pil. vel caps. No. 1, D.t.d. No. 30.
Sig.: One t. i. d., p. c.

Lecithin (neuro-lecithin) is useful, and small doses of the thyroid and the adrenal glands sometimes prove singularly and mysteriously beneficial. Perhaps we have no right to use the word mysteriously, for there hardly is any doubt now that sexual neurasthenia, with all its symptoms, may be caused by some disease or deficiency of the thyroid gland.

One thing we must always remember in the drug-treatment of neurasthenia: to change the treatment frequently (if it be only the form—from solid to liquid or *vice versa*—or the vehicle) and to intermit every week or two for two or three days altogether.

The Veterans' Reunion at Gettysburg

A Sketch of the Medical Side, Written by One Who Was There

By RICHARD SLEE, M. D., Swiftwater, Pennsylvania

First Lieutenant, Medical Reserve Corps, United States Army; Chief Sanitary Officer, Third Division, Veterans' Encampment, Gettysburg, Pennsylvania

EDITORIAL NOTE.—The great encampment of the survivors of the battle of Gettysburg, held on the fiftieth anniversary of this bloody and decisive contest, has now gone down into history. The bringing together of these old and feeble veterans was a remarkable achievement—and especially remarkable for the tender care with which their physical needs were looked after. How they were saved from sickness and cared for when illness threatened them Dr. Slee tells us in this record of his personal experiences.

THE story of the great encampment of Union and Confederate veterans, held on the Gettysburg battlefield on the fiftieth anniversary of this decisive contest between the hosts of the blue and gray, has already been told by the newspapers and magazines. It is a thrilling chapter in our nation's history, one that must stir the heart of every true Amercan.

Yet, there is one phase of the encampment that hardly has attracted attention. I refer to the quiet, careful and efficient work of the Army Medical Corps, without which hundreds of those aged veterans would have succumbed under the unusual effort and excitement of this anniversary gathering.

Believing that the readers of THE AMERICAN JOURNAL OF CLINICAL MEDICINE will be interested in the arrangements made for sanitation and for the sick at Gettysburg, and to learn how these arrangements were carried to success, I have collected the following data, in part the record of my own experience; since I had the honor to be detailed as Chief Sanitary Officer of the Third Division.

The Medical Department of the U. S. Army, under the direction of Lt.-Col. Alfred E. Bradley, chief surgeon of the Medical Corps, was entirely responsible for the hospital equipment and the sanitary personnel of the great camp of veterans at Gettysburg from June 28 to July 10.

The personnel ordered by the War Department to handle this situation consisted of 25 officers of the regular medical corps, 24 officers of the Reserve Corps, and 239 enlisted men.

REGULAR MEDICAL OFFICERS, CIVIL WAR VETERANS' CAMP

Lieut.-Colonel Medical Corps

Alfred E. Bradley, Governors Island, N. Y., Chief Surgeon.

Majors, Medical Corps

Louis T. Hess, Fort Hamilton, N. Y., C. O. Prov. Field Hospital.

Christopher C. Collins, Fort Screven, Ga., Executive and property officer.

M. A. W. Schockley, Fort Niagara, N. Y., C. O. Prov. Ambulance Company.

Sanford H. Wadhams, Fort Porter, N. Y., C. O. Regiment Hospital No. 3.

Arthur W. Morse, Fort Barrancas, Fla., C. O. Regiment Hospital No. 1.

Paul C. Hutton, Fort Howard, Md., Sanitary Inspector.

Gideon McD. Van Poole, Fort Washington, Md., Asst. Sanitary Inspector.

William W. Reno, Fort D. A. Russell, Wyo., C. O. Field Hospital No. 1.

Perry L. Boyer, Madison Barracks, N. Y., C. O. Regiment Hospital No. 2.

Captains, Medical Corps

William L. Little, Fort Wadsworth, N. Y., Asst. Sanitary Inspector.

William H. Moncrief, Philadelphia, Pa., Adjt. Prov. Field Hospital.

William M. Smart, Fort Monroe, Va., Asst. Sanitary Inspector.

Harry S. Purnell, Ft. DuPont, Del., Adjt. Field Hospital No. 1.

John A. Clark, Plattsburg Barracks, N. Y., Surg. 5th Infantry.

Philip W. Huntington, Fort Totten, N. Y., Surg. Prov. Field Hospital.

John R. Bosley, Fort H. C. Wright, N. Y., Adjt. Prov. Ambulance Company.

Arthur N. Tasker, Fort Hancock, N. Y., Surg. Field Hospital No. 1.

Garfield L. McKinney, Fort Caswell, N. C., Asst. Sanitary Inspector.

Charles E. Doerr, Fort Thomas, Ky., Surg. Regiment Hospital No. 2.

Ralph H. Goldthwaite, Fort Hamilton, N. Y., Surg. Regiment Hospital.

First Lieutenants, Medical Corps

Raymond W. Mills, Plattsburg Barracks, N. Y., Surg. Prov. Field Hospital.

Howard L. Hull, Fort Terry, N. Y., Surg. Prov. Field Hospital.

James E. Baylis, Fort D. A. Russell, Wyo., Surg. Field Hospital N. 1.

Alvin W. Schoenleber, Fort D. A. Russell, Wyo., Surg. Field Hospital No. 1.

Order No. 1, issued on June 27, indicated the amount of work which the Medical Department had to assume in addition to the

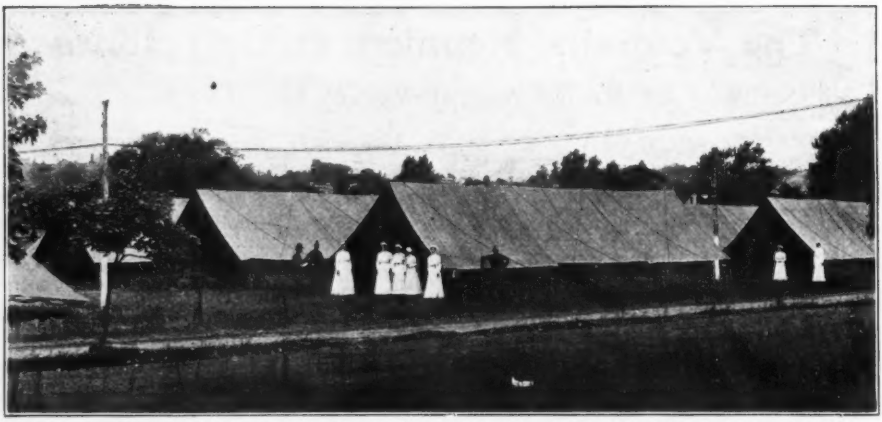

Fig. 1. Field Hospital No. 1, Major William W. Reno, Medical Corps, United States Army, commanding. Red Cross nurses and officers shown in the foreground.

purely medical and surgical work in the hospitals and first aid stations.

HEADQUARTERS CIVIL WAR VETERANS' CAMP, SANITARY INSPECTOR'S OFFICE, GETTYSBURG, PA., JUNE 28, 1913.

1. The following assignments of personnel of the Sanitary Department is announced.

2. Assistant to Sanitary Inspector, Major Gideon Mc.D. Van Poole, M. C.

3. Sanitary Chief of 1st Section, east of Long Lane, and north of 5th Infantry Camp, Captain Wm. L. Little, M. C.

4. Sanitary Chief of 2d Section, west of Long Lane, north of Field bakery, and east of R. R., Captain William M. Smart, M. C.

5. Sanitary Chief of 3d Section, east of R. R., and south of 5th Infantry Camp, 1st Lieutenant Richard Slee, M. R. C.

6. Sanitary Chief of 4th Section, all west of R. R., Captain Garfield L. McKinney, M. C.

7. Sanitary Squad. The following noncommissioned officer and private will report to the Sanitary Inspector for duty, in his office.

Sergeant 1st class, Paul Compton, H. C.

Private George L. Richardson, H. C.

8. The following noncommissioned officers will report for temporary duty as assistants to the sanitary officer in charge of sections:

1st Section, Sergeant James A. Trembly, H. C.

2d Section, Sergeant Harry R. Cray, H. C.

3d Section, Sergeant Robt. L. Edwards, H. C.

4th Section, Sergeant Samuel Gatling, H. C.

9. Latrine-Squads. Each latrine-squad will consist of three (3) laborers and one (1) noncommissioned officer in charge, as follows:

1st Squad, Sergeant Hugh D. Johnson, H. C., Latrines 1-20, and Red Cross.

2d Squad, Sergeant Walter Lewis, H. C., Latrines 21-42.

3d Squad, Sergeant Alexander H. Weir, H. C. Latrines 47-59 and headquarters.

4th Squad, Sergeant Davidson W. Fleming, H. C. Latrines 43-46 and 60-73.

5th Squad, Sergeant Prentice H. Risley, H. C. Latrines 74-84.

1st Latrine-Squad will report to Captain William Little, M. C.

2d Latrine-Squad will report to Captain William M. Smart, M. C.

3d Latrine-Squad will report to 1st Lieutenant Richard Slee, M. R. C.

4th and 5th Latrine-Squad will report to Captain Garfield L. NcKinney, M. C.

10. Police-Wagons. Each police-wagon to have two (2) laborers, and one (1) private 1st class or private, H. C., in charge under direction of the Sanitary Inspector of the section to which assigned as follows:

1st Section, Wagon No. 1, Private 1st class Emile Bossey, H. C.

Wagon No. 2, Private William J. Groig, H. C.

2d Section, Wagon No. 1, Private 1st class, William W. Pearce, H. C.

Wagon No. 2, Private Frank A. Hannah, H. C.

3d Section, Wagon No. 1, Private Webter T. Price, H. C.

Wagon No. 2, Private Charles H. Kellner, H. C.

4th Section, Wagon No. 1, Private 1st class, Moll F. Scott, H. C.

Wagon No. 2, Private Frederick C. Thompson, H. C.

11. Supply Department. The following noncommissioned officer and privates are assigned to this department:

Sergeant L. Wood, H. C.

Private 1st class James Phelps, H. C.

12. Disinfecting Squad. The following noncommissioned officers and privates are assigned to this squad:

Sergeant Brent A. Lemert, H. C.

Private 1st class, Charles Gelling, H. C.

Private 1st class, Archie C. Petterson, H. C.

(Signed) PAUL C. HUTTON,
Major Medical Corps, U. S. Army, Sanitary Inspector.

First Lieutenant Thomas E. Darlington, Medical Reserve Corps, was subsequently detailed as Assistant Sanitary Inspector in charge of disinfection.

Memorandum for Sanitary Chiefs of Sections

1. Night-Cans. Contents of night-cans 1st and second Sections will not be emptied into latrines, but will be burned in large rock pit urine crematories across R. R. from Q. M. headquarters, or carted away from the camp. Contents of night-cans 3d

and 4th Sections may be emptied into latrines if capacity of latrines will allow it. After emptying night-cans the interior will be burned out by firing a small amount of straw and an ounce or so of crude oil, if handy.

2. Disinfecting Squad. The disinfecting Squad will be assigned a wagon with 2 disinfecting sprays of phenol compound.

3. Sanitary chiefs of sections are responsible for all general and special police as well as for the sanitary condition of their sections.

4. Tin cans and ashes will be hauled to the dump north-west of Ambulance company, near R. R. on High Street. All refuse solid and liquid, will be disposed of in rock pit crematories near kitchens. Cesspools near kitchens will not be utilized without special authority from the Sanitary Inspector. Should a rock-pit crematory become crippled by overtaxing with liquids, proper steps will be taken immediately by the Sanitary personnel to put the incinerator in operation.

(Signed) PAUL C. HUTTON,
Major, Medical Corps, U. S. Army, Sanitary Inspector.

Medical Reserve Corps

The great value of this organization was for the first time practically demonstrated.

Sufficient officers from the regular establishment were not available to meet the emmergency of handling the medical problems of this great camp, and the War Department, therefore, called into active service twenty-four Reserve Corps officers.

These men were detailed in all capacities, under the supervision of the regular officers on duty. The training which they received, it is believed, will prove invaluable, and it is to be hoped that each year may see the active work of these Reserve Corps officers become more extended and more practical. As civilian practitioners they are all well equipped and competent, and, with the necessary military training, they must become a most valuable auxiliary to the regular establishment.

LIST OF MEDICAL RESERVE CORPS OFFICERS, CIVIL WAR VETERANS' CAMP.

First Lieutenants Medical Reserve Corps

Thomas Darlington, N. Y. City, Asst. Sanitary Inspector.
Richard Slee, Swiftwater, Pa., Asst. Sanitary Inspector.
William W. Vaughn, Ft. Myer, Va., Surg. 15th Cavalry.
H. Sheridan Baketel, N. Y. City, Field Hospital No. 1.
George C. Beach, Jr., National Soldiers' Home, Hampton, Va., First Aid Station. No. 2.
Walter M. Brickner, N. Y. City, Regimental Hospital No. 3.
Henry C. Coe, N. Y. City, Prov. Field Hospital.
Walter S. Cornell, Philadelphia, First Aid Station No. 5.
George S. Crampton, Philadelphia, Prov. Field Hospital.
Meyer M. Eckert, N. Y. City, First Aid Station No. 8.
William E. Fitch, N. Y. City, First Aid Station No. 8.
Howard Fox, N. Y. City, Regimental Hospital No. 2.
Harold M. Hayes, N. Y. City, Regimental Hospital No. 2.
Howard Hume, Washington, D. C., First Aid Station No. 10.

Fig. 2. Medical Reserve Corps officers on duty at Gettysburg. This camp was the first one in the history of the Reserve Corps in which an emergency existed, necessitating the calling into active service of a number of these officers to supply a deficiency in the regular establishment, and this is the first group picture taken of a group of United States Medical Reserve officers on active duty.

Arthur R. Jarrett, Brooklyn, N. Y., Regimental Hospital No. 3.
George C. Kieffer, Philadelphia, Pa., First Aid Station, No. 4.
Joseph V. Klauder, Philadelphia, Pa., First Aid Station No. 11.
David A. Kraker, Newark, N. J., First Aid Station No. 1.
Walter E. Lee, Philadelphia, Pa., First Aid Station No. 7.
William S. McGill, N. Y. City, First Aid Station No. 3.
Charles B. J. Mittelstaedt, N. Y. City, First Aid Station No. 6.
Mayer M. Stark, N. Y. City, Regimental Hospital No. 1.
S. Meredith Strong, Brooklyn, First Aid Station No. 6.
Reynold W. Wilcox, N. Y. City, Field Hospital No. 1.

The American Red Cross Society

The American Red Cross Society, under the able direction of Major Robert U. Patterson, Medical Corps, U. S. A., was a most efficient auxiliary, operating fourteen rest and first aid stations on the battlefield park-roads, outside of the camp proper.

During the period of the encampment, 845 cases were treated, 71 of these being transferred to hospitals. Shelter, rest, and comfort was administered to 10,695 persons. There were on the grounds 71 Red Cross Nurses, distributed at the various rest-stations, and shelters. Included in this number, were 26 Red Cross Nurses, assigned to duty with the camp field-hospitals, where they did most excellent work.

The Red Cross, under its present methods, working hand in hand with the military authorities, with its proper status established, so as to avoid duplication of efforts and conflict of authority, is a most efficient, energetic, and splendidly equipped coworker for suffering humanity.

Headquarters of Red Cross, Civil War Veterans' Camp

Memorandum For The Chief Surgeon

Personnel: 1 major, M. C., U. S. A.; 71 nurses (female); 10 doctors; 72 boy scouts; 33 miners; 10 chauffeurs, with cars; 11 cooks, waiters and laborers, making a total of 208.

This force operated 14 rest and first-aid stations at important historical points on the battlefield; 26 nurses were furnished to Field Hospital No. 1, U. S. Army, and Provisional Field Hospital, U. S. Army. The remainder of the personnel operated the rest-stations.

Date	Cases ill enough to require active treatment.	Sick transferred to Field or Civil Hospitals.	Cases receiving rest, water, bouillon, etc.	Total.
July 1	186	19	742	928
July 2	276	38	4006	4282
July 3	295	12	4391	4686
July 4	88	2	1556	1644
Totals	845	71	10695	11540

The table shows the work done at the 14 aid stations during the period July 1 to 4, inclusive.

Fig. 3. Type of rock-pit incinerator used for the destruction of contents of night cans and camp refuse. Three of these incinerators, each about 12 feet in diameter and 4 feet deep disposed of all this material, from the entire camp, each day.

Boy Scouts

One of the most remarkable demonstrations of efficiency, as secured by well-thought-out practical instruction and discipline, was demonstrated by use of the Boy Scouts.

More than 600 of these youngsters participated in the conduct of this great camp, and the startling results fully justify the feeling that in the Boy Scout movement of this country we have one of the most valuable organizations for the maintenance of patriotism, obedience, respect, and discipline. It was an interesting sight during the first day or so of the camp to see companies of these youngsters marching from various trains

with the precision of veterans and taking up their stations here and there throughout the camp, with an evident sense of the responsibilities they were about to undertake.

The writer must confess that previous to his observations at the great camp of Gettysburg he had considered the Boy Scout movement as perhaps a desirable thing, from a boy's viewpoint, but in reality not a very practical one. He did learn however, as did every other officer on duty during the trying days of camp life, to appreciate what a really remarkable organization they constitute.

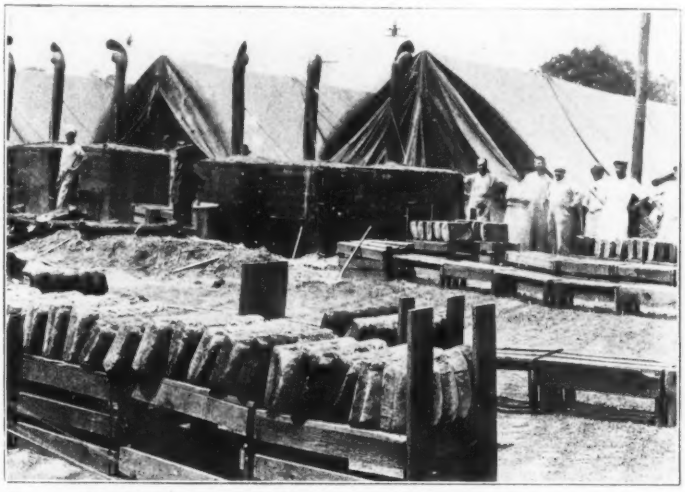

Fig. 4. United States Army field bakery in operation. This bakery, apparently without the slightest trouble, baked all of the many thousand loaves of bread required to feed the veterans in this immense camp.

Looking back over the work, it would have been almost impossible to have carried out successfully many of the details without the aid of these boys. They were useful in every capacity one could possibly think of—as orderlies in hospitals or messengers in connection with the various offices; or to man the ambulances, thus releasing medical officers for more important duties in the various hospitals. They independently manned first-aid stations, in connection with the Red Cross work, throughout the outskirts of the camp and on the surrounding battlefields; they acted as flagmen, by day and by night, on the dangerous crossings of the railroad; as guides and messengers for the enfeebled veterans; and in every useful capacity did they willingly, courageously, and thoroughly demonstrate the efficiency of the organization.

Everywhere did I hear praise, and almost incessantly was the request made for more Boy Scouts. It is to be hoped that the Washington authorities may take cognizance of the tremendous import of the movement and in some practical way encourage and foster the spirit and interest of this work.

Disposal of Garbage and Camp Waste

The bane, heretofore, of all camps, whether large or small, has been the prevalence of flies. Not only is the annoyance from these pests great, but their unquestionable role in the conveying of the infections of typhoid fever and other diseases makes their presence in a community of the most serious import.

Therefore, the disposal of kitchen waste and human and animal excrement, right from the commencement of the encampment, was a most pressing problem. To feed the large number of men gathered there were provided 95 kitchens. These kitchens were arranged in rows, at the head of the company streets and on cross avenues, so as to be convenient for supplying the necessarily large amount of food and to be ready of access at meal times.

Kitchen-incinerators were provided, one for each two kitchens. These incinerators were of the pit type, rock-lined. They were about 5 feet wide and 6 to 7 feet long, the bottoms sloping from the level of the ground at one end to a depth of about 18 inches at the rear, and the bottom, two sides and rear end walled up with stone to the surface of the ground.

These incinerators were of sufficient size to dispose properly of the waste from one company, whereas, as events showed, they were called upon in many instances to dispose of kitchen waste corresponding in amount to that which would be obtained from the feeding of two full regiments.

In addition to disposing of all the solid garbage, there were immense quantities of kitchen-water, and so on, to be evaporated, the nature of the soil being such as to preclude the disposal of any by absorption. In spite

Fig. 5. Provisional ambulance company, Major M. A. W. Schockley, Medical Corps, U. S. Army, commanding.

of the fact that these incinerators were wholly inadequate for the work imposed upon them, the seemingly impossible was accomplished, and all garbage and practically all of the kitchen waste-water was handled in them.

It required a tremendous amount of exertion on the part of the sanitary personnel to obtain these results, but it was a striking example of what can be accomplished in an emergency.

Work of the Latrine Squad

The toilet accommodations consisted of 90 latrines, with two urine-troughs each; the total seating capacity of these being 3476. These latrines consisted of board walls, with flat, tarred-paper roofs, with ample air space between the roof and the side walls.

Two pits were dug in each enclosure to a depth of 6 feet, where the ground water permitted. They were about 20 feet long and about 4 feet wide. The seats were arranged in two rows, and were of the box form, with hinged lids.

Each morning, latrine-squads visited the latrines. The box-covers were tilted back, any refuse was brushed into the pits, and the contents were then liberally sprinkled with straw and crude oil. These were then fired, and as soon as the flames had died down sufficiently so as not to endanger the wooden seats, these large boxes were slammed back into place, so as to include as much as possible of the dense smoke under the covers.

In addition to this, lime and crude oil were liberally used in the urinals. This very simple procedure, carried out systematically day after day, kept these latrines in an agreeable and sanitary condition. At no time, in spite of the large numbers of men in camp, and with the prevailing intense heat, was there anything disagreeable in connection with them.

Flies were noticed only by their absence; and, as showing how this condition was appreciated by the veterans, I include a paragraph of a letter from one of these men:

"On the 3rd of July, we missed one of our number, an old Welshman, 76 years old, with a broken leg, a bent body, supporting himself with a cane. We could not find him in any of the hospitals, nor could the boy scouts find him. As he was a sober man, the puzzle was great. Finally one of our mess found him sound asleep in one of the latrines. He said it was a cool place; no flies there!"

There still remained to be disposed of 240 night-cans of refuse and urine. These were large galvanized covered cans, placed at intervals throughout the company streets, for the purpose of collecting the night urine and other refuse.

These cans were collected each morning by teams, and were deposited at the central incinerator plant, which consisted of 6 regular pit incinerators, from 10 to 14 feet in diameter, and about 4 feet deep, placed in the center of the camp.

These central incinerators certainly justified the dependence which the Army Medical Department places on this form of incinerator for the handling of camp-garbage, and only three were in operation at one time. As high as 2500 gallons of water-soaked sludge was consumed in one single incinerator in one day.

Largest American Encampment

This encampment on the old battlefield of Gettysburg, in commemoration of the 50th anniversary of the battle, extending from June

28 to July 6, was the largest encampment ever held on the American continent, and afforded an opportunity to test the sanitary methods and plans of the Medical Department of the U. S. Army on a scale never before offered.

Dealing with trained soldiers and in relatively small numbers, our sanitary methods have been very successful, but in the Gettysburg encampment the authorities were confronted with the overnight establishment of a city of more than 6000 tents, with 55,000 civilian residents—people who were undisciplined, and many of whom were greatly handicapped by the disabilities of age, injuries, and disease.

In anticipation of this encampment, the Quartermasters' Department, under the most remarkable supervision of Major Normeyle, was in preparation for several weeks.

The camp was located on ground lying south of Gettysburg, between Confederate Avenue on one side and the Emmettsburg Road on the other, and its southern boundary including portions of the ground covered by Pickett's famous charge.

From a sanitary viewpoint, it was about as unfavorable location as could be selected for a fixed camp. The soil was of a dense clay, or adobe, practically impervious to moisture, although in the digging of our pits for the latrines sub-surface water was frequently encountered at a depth of about three feet. This clay soil rendered it impossible to dispose of waste water except by evaporation on the incinerators or by drainage through ditches, and, as the country was very flat, the drainage, of necessity, was very poor.

The intense heat and previous drouth converted the surface of this camp into an impalpable dust, which was very annoying at times, and which became a tenacious, sticky mud on the several occasions when we had showers. There were practically no trees to afford shade, except on one border. There was no safe water supply. Therefore, three deep wells were driven and an abundant supply of water piped to all portions of the camp, so that everybody had free access to it.

Notwithstanding these and many other difficulties, the encampment, from the commencement to its close, was most successful in every particular, and the thousands of old veterans who were present were loud in their praise and expressed continual astonishment at the methods now in vogue as compared with those with which they were familiar during the trying period of the Civil War.

They would stand in interested groups, watching the disposal of the refuse in the incinerators and the many other details in connection with camp life, and the sanitary advancement of the general country which is sure to be awakened by these returning veterans will of itself justify the necessary large expenses of this undertaking.

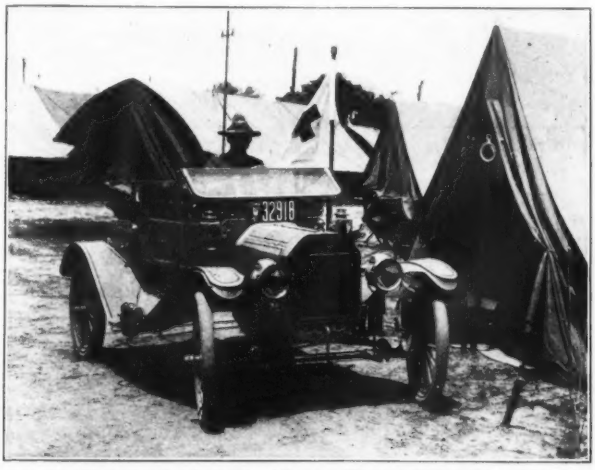

Fig. 6. The writer in his Ford runabout. The experience of this great camp, many miles of which the assistant sanitary chiefs had to cover each day, demonstrated the value of the automobile in military work of this character. This little car covered hundreds of miles during the life of the camp, without a hitch, except one puncture.

Hospital and First-Aid Stations

The Medical Department of the Army had entire charge of all hospitals and first-aid stations within the confines of the camp.

It was expected that about 55,000 veterans would participate in the reunion. However, all these men were of advanced age, the average being above seventy years, and so, considering in addition the intensely hot weather in prospect, the long journeys on uncomfortable trains many had to take, the changed diet, the unavoidable exposure, and then the exhaustion incident from it all, it was decided that hospital-beds for the accommodation of at least one thousand men should be provided.

Having this in mind, two field hospitals, with a normal capacity of 108 beds each and

three regimental hospitals with a normal capacity of 9 beds each were established, besides additional equipment that allowed an extension of the field-hospitals to 412 beds each, and to 100 beds for each regimental hospital; making a total of 1124 beds. In addition to these hospital accommodations, 11 first-aid stations were established in various portions of the camp, for the purpose of affording prompt aid, each being in charge of a medical officer aided by Hospital Corps men as assistants and attendants.

All of the hospitals and first-aid stations were open day and night and the following table gives a summary of the amount of work done. Aside from those admitted to the hospital, 8397 patients received treatment for minor ailments.

The mortality was small, only 9 deaths occurring during the entire encampment, and the causes of death were, respectively, as follows: cardiac dilation, 2; apoplexy, 2; heart failure, 1; asthenia, 1; heat-prostration, 1; exhaustion, 1; uremia, 1.

Nothing, surely, can more graphically portray the thoroughness of the measures adopted by the Medical Department of our Army, and their efficiency, than do the figures here presented.

To handle 55,000 old men under the conditions obtaining, and then have to record a total mortality of but 9 campers, and only

	Cases admitted to hospitals	Cases treated but not admitted to hospitals	Sent to hospitals from first-aid stations, etc.	Total of cases	Discharged from hospitals	Transferred to hospital-train, State of Pennsylvania	Died
Provisional field-hospital	353	640	...	993	340	8	5
Field-hospital No. 1	222	1075	...	1297	211	8	3
Regimental hospital No. 1	73	293	...	366	72	..	1
Regimental hospital No. 2	76	781	...	857	76	..	..
Regimental hospital No. 3	20	1042	...	1062	20	..	..
Fifth infantry infirmary	...	564	18	18	564	..	..
First-aid stations (11)	...	4002	420	4002	...	..	..
Red Cross stations (14)	...	845	71	845	...	..	..
Totals	744	9242	509	9986	719	16	9

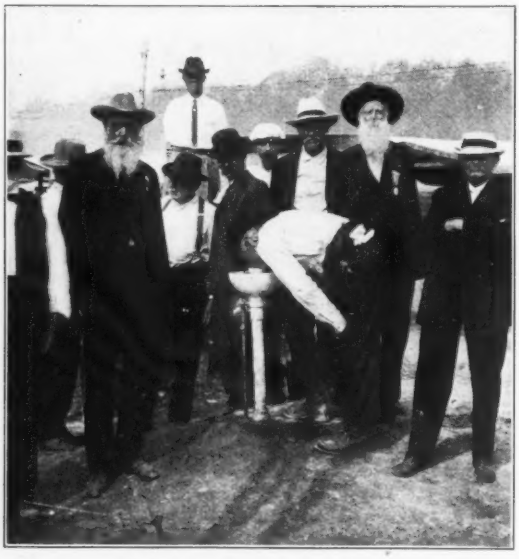

Fig. 7. Group of Confederate veterans waiting their turn for a drink at one of the bubbling fountains. The water supplied was from driven wells, and was of the utmost purity and clearness. The water was cooled by ice.

16 cases in which transference of the patients to civil hospitals was necessary at the termination of the encampment, surely is an accomplishment that will ensure this camp's passing into history as a marvel.

Provisional Ambulance Companies

Under the command of Major M. A. W. Schockley, Medical Corps, U. S. A., there was organized a provisional ambulance company, by the assembly of ambulances from the various posts of the Eastern Department; 12 ambulances with 48 draught-mules and 11 riding horses, besides 2 automobile ambulances from the Walter Reed General Hospital, of Washington, D. C., forming this company.

During the most trying days of this encampment, these ambulances were kept almost continuously on the go, responding in all to 741 calls and transporting 1100 patients,

The splendid work done by this provisional ambulance company was a demonstration of the remarkable state to which the various units of the Medical Department of the Army have been brought.

In addition to the thorough medical organization of the U. S. Army and of the Red Cross, in the camp proper and scattered throughout the battlefield drives, the Pennsylvania State Department of Health, under the efficient direction of Dr. Samuel G. Dixon, Commissioner of Health, made ample preparation in the town of Gettysburg and the immediate vicinity for the handling of such sick or injured persons as might present themselves. An emergency hospital was established, and numerous first-aid and comfort stations opened. In addition to these, the Pennsylvania State Board of Health's hospital-train was in readiness for the removal of patients to base hospitals at Harrisburg and other points in case the local accommodations should become overtaxed.

The work of Dr. Dixon's department was carried out with skill and forethought, in harmony with the army officers, in all directions and in handling all cases occurring outside of the camp to which the activities of the regular army officers were confined.

I question whether there is a state board of health in this country as well equipped, organized, and administered as that under the direction of Dr. Dixon, as practical demonstration proved.

Other departments of the Army, notably the quartermaster's department, subsistence department, signal corps, engineer corps, and the rest, all deserve highest praise for the manner in which they were conducted.

This article is intended primarily as a description of the medical problems, and how handled, and I cannot enter into details in connection with these other very important branches of the service. It would not be fair, however, to neglect to mention them, considering the tremendous amount of work which they all performed and which was so absolutely necessary.

In Conclusion

To have been an active participant in this great event, is no small honor, and I believe every medical officer, regular as well as of the reserve, was impressed with this fact.

Space will not permit of any extended report of the thousand and one interesting events that came under our notice, but I cannot close without a few personal observations concerning those who made this camp, from a medical, no less than from a sanitary point of view, a success and assured it a place in history.

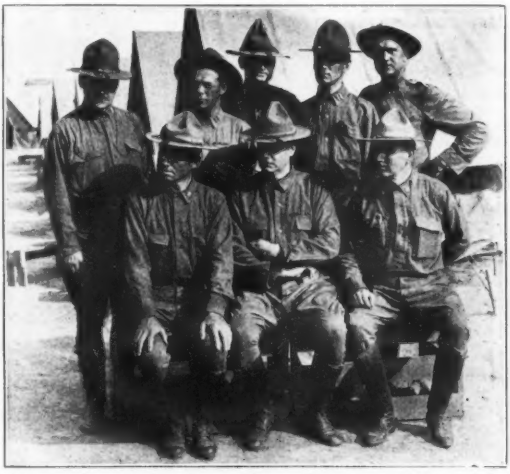

Fig. 8. Group of sanitary officers. Front row, left to right: Major Paul C. Hutton, Chief Sanitary Inspector; Lt. Col. A. E. Bradley, Chief Surgeon; Major Gideon Mc D. Van Poole, Assistant Sanitary Inspector. Rear row, left to right: Lieut. Thomas Darlington, Assistant Sanitary Inspector, chief of disinfection; Captain Wm. T. Little, Assistant Sanitary Inspector; Lieut. Richard Slee, Assistant Sanitary Inspector; Captain Wm. M. Smart, Assistant Sanitary Inspector; Captain Garfield S. McKinney, Assistant Sanitary Inspector.

I am without information as to the methods by which Surgeon-General Torney selected the regular medical officers detailed to this camp. Suffice to say, however, that his method was perfect, and not a single man was selected who lacked in the least degree the necessary qualifications necessary to make his especial detail a success. Every department, without exception, ran like clockwork and more than accomplished the work assigned to it; and I am convinced that, could every civil practitioner participate personally in some such event, he would return to his regular occupation with an extended view and experience that would astonish him, make him spread his shoulders and thank God that there is a service known as the Medical Department of the United States Army.

Our Chief-Surgeon, Lt.-Col. Alfred S. Bradley, every inch of his more than six feet a soldier and a man's man, is the ideal of an

officer, medical or of the line, always on duty, always accessible to all. Never for an instant during this trying period did I see him ruffled, and always was in evidence a kindness of heart in keeping with his physique. Escorting him around, as I did, in my little car, in the small hours of the night, to visit the dead, the sick in the hospitals, to direct the lost veteran to his tent, to do deeds of kindness, I realized why every last man was willing to work hard and to work every hour of the twenty-four if there be need. I count it an honor to have served under Lt.-Col. Bradley; and should events again call us into the field, I hope good fortune may place me under his command again.

Fig. 9. Lt. Col. Alfred E. Bradley, Chief Surgeon; Major Paul C. Hutton, Chief Sanitary Officer. On these two officers fell the brunt of the sanitary work of the great camp and the results speak for their unusual qualifications.

Major Collins, our executive officer, worn and thin, just has come out of the Walter Reed Hospital, convalescent from a serious and painful illness. Most men would have applied for continued sick-leave. Not so he, however. Right on the job every minute, courteous, kind, his southern blood would not let him be otherwise. To be executive officer of a camp of this size is a big-man's job, and Major Collins filled it.

Major Paul Hutton, our chief sanitary officer and my immediate superior had just returned from weeks of strenuous work succoring the sufferers from the Ohio floods and down the Mississippi Valley, a combination of highly tempered spring-steel and whalebone, keeping up all this tremendous energy on less than four hours' sleep in the twenty-four; for to his work and direction were due the splendid sanitary results.

If there was any one man in camp to whom I might owe a grudge, Hutton is the man, turning us out, as he did, at 4:30, or earlier, every morning to start work, and keeping us at it till sundown or later; detailing me for the three hottest days, when the temperature registered 103½ degrees in our hospital tents, to stand over the crematory fires, when even hospital-corps men keeled over. Under the circumstances, one would forgive me for an unkindly feeling, but I have none, nothing but admiration and regard.

Then there were my immediate coworkers and fellow slaves, Major Van Poole and Captains Little, Smart, and McKinney, and Lieutenant Darlington. I naturally saw a great deal of these messmates of mine, especially as we were so intimately associated in the sanitary conduct of the camp; and I count it as one of the greatest privileges to feel that acquaintanceships there made will ripen into lasting friendships. Work of this character brings out the real man, and I value the opportunities of meeting these fine fellows under such conditions more than I can express.

Outside of our little "family circle," of sanitary workers, clusterd about the Chief Surgeon, were many splendid men. Majors Louis T. Hess, commanding provisional field-hospital; Reno, Field Hospital No. 1; Wadhams, Regimental Hospital No. 3; Morse, Hospital No. 1; Boyer, Hospital No. 2; Schockley, in command of the Ambulance Company; and so on, through the list, each one and all are fit topics for separate chapters.

Anesthesia: A Résumé of Fifteen Years Administration of Anesthetics*

By A. S. TUCHLER, M. D., San Francisco, California

IN THE administration of anesthetics covering a period of fifteen years, I have come to the conclusion that chloroform is the safest and the best anesthetic, and the easiest to administer.

In order that you may obtain the results mentioned, first gain the confidence of your patient. After a careful examination and an assurance that all will be well if he will breathe naturally and do as directed, you have greatly overcome the dread and nervousness preceding an operation. A half-strength H-M-C tablet is given hypodermically one hour before the operation, and another H-M-C tablet —this time full-strength—is administered while the patient is on the operating-table just previous to beginning to operate. I have noticed that those of the blonde type may not need the second hypodermic; in fact, one full-strength H-M-C tablet may be sufficient in the first place in these individuals. if they be light in weight or debilitated subjects.

If the patient is anemic or weak, 1-30 grain of strychnine sulphate should be combined with the above tablet. This will prevent shock or collapse after the operation is completed, especially should this be prolonged.

The Use of Oil of Orange

Previous to the administration of chloroform, a few drops of the oil of orange is dropped on the Esmarch mask, which previously has been covered with about four layers of gauze and is being held about one inch from the face. Abrams found that "this oil administered before ether anesthesia will prevent or lessen subsequent nausea and also the patient will require less of the anesthetic." It will also overcome the terror most people have of chloroform and will assist in bringing the patient more quickly under its influence.

Chloroform should be dropped on the mask at the rate of about 60 or 70 drops in a minute. The patient is told to breathe naturally and go to sleep, and this suggestion should be repeated several times. Have the patient breathe both through nose and mouth at first. It will be noticed that when the stage of complete anesthesia has been reached, mouth-breathing as a rule prevails. Do not push the anesthetic; it must be administered cautiously and slowly. Do not watch the operator, but give the patient your whole attention. After a few minutes, when the patient comes under influence, the mask may be lowered, but never should be placed directly on the face.

There will be no excitement stage, or but of slight degree, owing to the action of the H-M-C. The pupil will not be influenced by the anesthetic, and contraction will not take place, as is the case when H-M-C is not given.

Complete anesthesia will be manifested by the loss of muscular contraction, a snoring respiration, and the abolition of ciliary reflex. You can assure yourself that the patient is under complete surgical anesthesia and this reflex abolished, by gently raising the upper eyelid and touching the lashes. Do not touch the eyeball.

Suspend the administration of the anesthetic until the breathing becomes natural again, when a few drops only will be required occasionally to keep the patient asleep; in many cases the suggestion to go to sleep being sufficient. One-half to four drams of chloroform usually will suffice for an operation last ing from one to three hours or longer.

Watch the Pulse

The pulse must be closely watched—not necessary to count it. Should it become small or wiry or show tenseness, then strychnine sulphate, 1-30 grain hypodermically, may be given. This may be repeated during the operation, if it be prolonged. In a case where a large fibroid tumor was removed, I found it necessary to give 3-30 grain of strychnine during the operation, besides oxygen and the change to ether. Do not be afraid to give strychnine when it is indicated during the operation. It will help to prevent shock and collapse.

When an operation is prolonged, it may be necessary to change to ether. This should

*Read before the State Eclectic Medical Society, May, 1913, at San Francisco, California.

be dropped on the same mask about three times as fast as chloroform, holding the mask one-half inch from the face, so as to give the patient plenty of air.

It seem brutal to me when I see a helpless patient has his wind shut off by the ordinary ether-cone clapped over the face and ether poured on until the patient becomes blue or cyanotic. This brutality is a dangerous procedure and entirely unnecessary. Many a patient has been lost through it, postoperatively, from shock, owing to lack of aeration and subsequent congestion of the lungs. The common expression that "the operation was a success, but the patient died" usually can be traced to the careless or improper administration of the anesthetic.

Chloroform or ether, either is perfectly safe when administered correctly and carefully. Usually to the inexperience or the carelessness of the anesthetizer can be attributed any unfavorable or fatal results, often due to shock and collapse because too much of the anesthetic has been employed in that case.

No set rule can be laid down, however, to govern every case. The successful administration of an anesthetic requires the very best judgment. Timidity or bad judgment on the part of the anesthetizer is most likely to result in an imperfect or too profound narcosis, death on the table or postoperatively. When Morton, the discoverer of ether anesthesia, administered that drug to a patient, he did not watch the operation, but gave his whole attention to the patient, therefore his success with its administration. Others may well imitate him.

Care During Prolonged Operations

During a prolonged operation, should the pulse become weak or wiry or the patient pale or cyanotic, then stumulants, such as strychnine, glonoin, sparteine or brandy, or normal salt solution, hypodermically, are indicated.

It is my custom to have two rubber bags filled with warm water and placed on each side of the chest and kept warm during the entire operation, or having the operating-room warm, about 70°F; also having any exposed portion of the patient covered with blankets so far as possible, so as to prevent the surface from being chilled. Thus, the patient is kept warm while on the operating-table, and this will help to insure a successful termination of the operation.

I cannot too strongly impress the necessity of seeing to it that the patient has an extra covering of heavy woolen blankets before he is removed from the operating-room, since usually the halls are cold and drafty. I have seen many a successful operation end disastrously to the patient by way of the pneumonia route, owing to a lack of just this little precaution.

By carefully observing the foregoing details, the anesthetizer need have no fear of having any calamity befall the patient. There will be no anesthetic or any surgical shock, nor will there be any story to tell that the patient took the anesthetic badly, nor will there be any sequels, such as pneumonia. The patient will awaken from his sleep an hour or two after the operation, usually without vomiting, and ask why the surgeon has not begun.

This experience is the result of about fifteen years of the almost daily administration of chloroform or ether, without having had any serious accident or fatality. Complete anesthesia was obtained in from three to five minutes. The duration of the anesthesia was from one-half to four and one-half hours; the patients ranging from early infancy to extreme old age and some complicated with hypertrophy or valvular disease of the heart. The operations comprised minor as well as the most complicated abdominal and other major ones.

Conclusions

From the foregoing, the following conclusions are arrived at:

1. Chloroform and ether are perfectly safe as general anesthetics.
2. Drop either anesthetic in the mask, giving the patient plenty of air.
3. Have the patient breath both through the nose and mouth; the latter prevails when the full anesthetic stage is reached.
4. Keep the patient warm while he is on the operating-table; cover him up with an extra blanket before his removal from the operating-room.
5. Do not place the finger on the eyeball in order to determine the extent of the anesthesia; gently touching the eyelashes on the upper lid will determine any reflex movement and make known the extent of the narcosis.
6. Keep strict guard of the patient entrusted to your care, and do not watch the operation.
7. Observe the danger-signal—when the breathing begins to become stertorous or snoring, then suspend the administration of the anesthetic and remove the mask from the face.

Vaccine Therapy and Homeopathy*

By JOHN BESSON, M. D., Portland, Oregon

EDITORIAL NOTE.—Some months ago we expressed wonder that more of our Homeopathic brethren had not made use of the wonderful popularity of bacterin-therapy to emphasize the claims of the peculiar law of their school, "Similia similibus curantur." Dr. Besson was quick to take this up, as the following article demonstrates.

HUMANITY notoriously respects the opinion of the other fellow, and is always off with the old and on with the new. We should, therefore, thank our management for the timely title of this Bureau, which in itself should insure attendance and attention to a marked degree. Until the receipt of the program a few days ago, I had looked forward to appearing before a poorly attended Materia Medica Bureau, the papers there presented being all too often respectfully tolerated, with the secret hope that there may be but little and very short discussion.

It has been suggested that I prepare a paper on "The Homeopathicity of Vaccines"; but I have refrained from giving a title to my subject, thinking that a better one would be, perhaps, "Up-to-date Therapeutic Philosophy," and then, again, nothing appeals to me but "The Vindication of One Samuel Hahnemann." There was a scientist for you, and, like so many others, he labored before the time was ripe, yes, a hundred years before the world was ready or was able to appreciate. You have heard that often enough, and it is a rather vacuous statement; unless, indeed, you analyze and compare the radical suggestions of the man of 1810 with the status of present-day therapy. If you do that, then you will realize that, while many of us have accepted his truths, trustingly followed his path and clinically reaped the benefits, only today has medicine the brains to comprehend the law of cure.

Hahnemann told the story of vital force and its vicissitudes—"Raise it to par, and disease is no more." But his mere sayso, together with his "try it and publish your failures to the world," was not proof sufficient for those who would not see. Wright dubbed vital force "opsonic index," then went one step further than Hahnemann, by proving its variations, and today there is a proved reason for the activity of curative agents.

I'll say to you here that, other than the various electrical and mechanical therapeutic measures so highly perfected, and—setting aside the germicidal method of cure, perfected possibly in the effort at one great sterilization of the patient, as per Ehrlich—there is no means so potent as the use of bacterins. Also, here is the only real "regular" therapeutic point infringing upon the homeopathic field.

The one controversy lies in the apparent efforts of nature in response to the stimulus offered, either by the properly selected drug or by the bacterin, and our ideas as to the *modus operandi* and intent of these efforts.

To clear up this question, we must stop for a consideration of curative agents, their sources, the methods of their selection, and, most simple, today, their mode of action.

As curative agents, we will consider only *antigens*.

An antigen is something which, when placed or taken into the body, stimulates antibody formation of a particular variety.

The first requirement of any antigen is similarity. Mark that, please, as the bomb-shell in this paper; the point of points. The antigen must be the similium. Something which is nearest to that something causing the disease, and, yet, without being identical, is the prime requisite in determining a measure that will act curatively; act by aiding nature to cure; that is, one which will offer the necessary prod to nature, which then proceeds to raise its own opsonic index.

The bacterin is the typical antigen.

How Bacterins Cure

First of all, what is a bacterin? It is a suspension of a number of killed bacteria—no longer a disease-producing agent, but now a remedy, when properly selected. And, to cease generalizing, I will here cite a specific instance in that of typhoid infection. Five hundred million of the *dead* typhoid bacilli

*Paper read before the Bureau of Serum and Allied Therapy of the Oregon Homeopathic Society, at Portland, Oregon, October 24, 1912.

forced into your system will not produce the disease. They will stimulate your organism to form typhoid antibodies, beginning with about the eighth day after inoculation; a fact which has been demonstrated many times. According to Callison (who quotes much from Major Russell and others), "corresponding to the time of development of antibodies in prophylactic vaccination, in the first eight or ten days of an attack of typhoid, there is a constant increase of temperature and aggravation of all symptoms. With the decline of the temperature to normal, there is an increasing quantity of antibodies present in the blood, which may be demonstrated for long periods thereafter."

"From this correspondence in time between the clinical symptoms and the antibodies, in an attack of typhoid fever, and the development of antibodies and immunity in prophylactic vaccination," Callison says, "it seems only proper to assume that recovery from typhoid and the development of immunity in prophylactic vaccination are brought about by a similar mechanism, and that the prophylactic vaccination is an artificial, controlled process, which occurs naturally in an attack of the disease." He then asks: "Can this artificial, controlled procedure be applied in the treatment of typhoid?"

Compare With the Teachings of the "Organon"

Did any among you ever before hear of an "artificial," possibly a drug-produced, "controlled procedure" being applied in the treatment of morbid processes? If not, please consult your "Organon." Long after the writing of that monumental work opsonic indices have been raised by drugs homeopathically selected and the fact scientifically demonstrated at Ann Arbor, Boston, and other places.

Do you know that eighty percent of volunteers in the Spanish-American War and twenty percent of regulars contracted typhoid fever (almost impossible of comprehension); that in the past three years there have been but twelve cases of typhoid fever in our army, without one death—and that under exposure, too, along the Texas border and in towns where many people died of the disease? And, just as certainly as the typhoid antigen confers immunity from the disease, may you grant the belladonna-child immunity to a typical belladonna scarlet-fever.

That, of course, has been proved only clinically. But could you desire more proof of the immunizing effect of a similar drug than the fact that some persons are so susceptible to rhus poisoning as to develop an attack year in and year out, irrespective of contact; and, that among 3000 employees at a summer-park in Philadelphia, through a period of ten years, there had not been one failure to establish immunity in all previously susceptible cases by two drops of the tincture of rhus toxicodendron in water three times daily?

The fact here stated is attested to by Dr. J. C. Attix, professor of chemistry, radiology, etc., at Temple University, in Philadelphia; and he, laboring on in his blissful ignorance, reports the circumstance, not suspecting for a moment that he was furnishing the proper antigen to those very rhus-opsonin starving bodies in need of it.

However, like most of the tangible proofs of the law of cure, it comes to us as a gift from outside our ranks. Be quick to accept these proofs. Wright, von Behring, Huchard, and the early immunity-understanding men, did not hesitate in using the term "homeopathic"; and, in this progressive day, please to recall that we have always been the progressive party in the field of medical endeavor—the new school.

Please continue "new" enough to be progressive and to look with favor upon anything holding forth a promise of immunity, remembering that, aside from the antitoxins, which give antibodies already manufactured (and wisely, too, for there's no time for grinding our one's own antibodies in tetanus and diphtheria), nature does all the work in curing, the vaccine or the drug but offering the necessary prod.

Take with you, please, that "antigen," "indicated remedy," "vital force," "opsonic index," "immunity," and "homeopathy" are to be said all in one breath, and reverently treasured in that private mental niche you've reserved for the memory of Hahnemann.

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[Gradually, but surely, the barriers between the different branches of the medical profession are being broken down. Time was when the homeopath, the eclectic and the regular could meet on no common ground. That time is happily past, and our differences are now largely sentimental ones. None of us need be ashamed to admit that bacterin-therapy is strikingly homeopathic; nor need we deny to that great man, Hahnemann, the glory that is surely his. The American Institute of Homeopathy proposed to the American Medical Association, at Minneapolis, a joint investigation of the law of similars. We hope it may be undertaken.—ED.]

Dental Malformations and Anomalies

Some of the Factors That Produce Them

By LUCIEN D. CLARK, M. D., Akron, Ohio

THE history of dental malformations and anomalies is almost as old as the history of the human race, but it is only in recent years that the importance of the subject has been appreciated, not only from a cosmetic standpoint, but as to its influence upon the health of the individual.

Why are my teeth crooked? Physicians and dentists have been asked this question times without number, and perhaps upon the latest theory promulgated will depend the answer. If the practitioner of medicine is appealed to, he probably will name the theory of transmission, and, so, claim heredity as being the predominating factor.

The rhinologist may paint a verbal picture of the relations of the nasal structures to dental malformations, and emphasize their importance as a causative factor.

Those worshiping at the shrine of Hygeia will show you where faulty diet and hygiene are largely responsible for the trouble; while there are others who positively assure you that your teeth are neither crooked nor decayed, nor painful, but that you just think they are. Of this latter class, I simply make mention, and proceed.

Diet as a Factor

It has been prophesied that some day we shall be a toothless race of human beings. Let us see upon what theory such a prediction could be based, by considering the importance of diet as a factor in the probable result. We will take the well-known example of the athlete. This individual has a well-developed forearm and a magnificent biceps. How did he acquire them? He was not born with them: these anatomical forms were acquired by use—were developed. Now let us put this athlete at a desk for a time. It will not be long before his magnificent biceps have become flabby and his arm measurements have diminished, the tissues having been absorbed.

In subterranean streams and lakes fish are found that have no eyes; there being no use for them, they have gradually disappeared. There are authorities who contend that our ancestors gradually lost a prehensile tail, because they acquired the habit of erect posture and ceased to use it.

If, as seems within the bounds of reason, it is with the teeth as with other structures of the body, then, if they are not used for performing the functions in the manner and for the purpose for which they were intended, in time they will become modified to meet existing conditions; whether that be teeth of shorter life, frail or irregular development of the maxillary structures, or complete absence of teeth.

Can it be possible that the dental anomalies now prevalent represent the first step in a retrograde metamorphosis that in time will produce a race of people who will be able to eat only predigested food in tabloid or liquid form? Is it not the tendency of the times, in fact, I may say, the custom, to limit one's time in eating a meal? Thousands of people, both children and adults, have but from twenty to thirty minutes in which to eat. So, they must either eat but little of the coarser food that requires prolonged mastication, or fill up on slush, such as requires but a "whollup and a gulp"; and as they will not sacrifice quantity, they will, and do, sacrifice quality.

A coarse quality of food is intended, even with deciduous teeth, or else nature would never have surrounded teeth with gums so insensitive. It requires use to develop and maintain any structure, and coarser food is needed to stimulate the circulation supplying the teeth as well as the structures from which they are developed and by which they are supported; for, without normal circulation, normal development and life are impossible.

Hygiene as a Factor

It is said that "cleanliness is next to godliness"; and the maxim of Dr. W. C. Abbott, "Clean out, clean up and keep clean," as applied to impure and unhealthy conditions conditions elsewhere, applies equally well to the mouth. The health of the individual is dependent mainly upon his ability to resist infection. Food is not properly masticated in malocclusion; therefore, malocclusion directly interferes with digestion. Imperfect digestion means faulty nutrition and lowered vitality; so, it will readily be seen how various infections are invited through neglect of the teeth.

We all have had occasion to observe instances where mouths were absolutely filthy because of accumulations of food-products about the teeth, accumulations which were disturbed only by the food taken—and, ye gods, what a sight, what an odor! Would it be possible to compute the number of bacteria such a mouth contained? These bacteria are a direct factor in the early destruction of the teeth, both deciduous and permanent. Early destruction or removal of the deciduous teeth is commonly followed by faulty eruption of the permanent teeth, and comprises many of the cases of malocclusion owing to immediate causes.

Nasal Obstructions as a Factor

Several years ago Dr. Hartz, of Detroit, in an excellent article on the subject, made lengthy reference to nasal obstruction as a causative factor in dental malformations. He pointed out how nasal obstructions (or diseases) may, by compelling mouth-breathing, cause faulty development of the nasal structures through disuse. And to this all will agree.

To what extent nasal obstructions are a causative factor in producing the high-vaulted palate and irregular eruption of the teeth will now be considered.

Sir Morrell McKenzie examined 2150 skulls, and in 75 percent of these found some degree of deviation of the septum; showing that nasal obstruction is more common than supposed. Whether the skulls examined were those of the adult, and what the probable cause of these deviations, he does not state; but we know that irritating dust is the most common cause of deviated septum, by causing turbinal intumescence and subsequent hypertrophy.

Mayo Collier examined 1050 patients, indiscriminately, and found that less than 10 percent had normal noses, these patients ranging from 1 year to 80 years of age. It was rare to find any obstruction under the age of 10, unless due to temporary or immediate causes. This would indicate that nasal obstructions rarely are congenital, seldom occur before the age of 10 years, and are more common after puberty.

If, as Dr. Hartz states, the structures of the head and face have assumed their permanent form at about the 8th year of age, and, as Mayo Collier states, nasal obstructions are rare before the 10th year, it would seem that these abnormalities, as such, contribute but slightly, if at all, to the development of dental malformations (that they are commonly associated is admitted); for the first 14 permanent teeth are usually erupted before nasal obstructions appear, according to Mayo Collier. (It will be noticed that, in referring to nasal obstructions, observations have been confined strictly to the nasal cavities, no reference being made to the postnasal space—pharyngeal vault.)

If nasal obstructions were causative factors in faulty eruption or malocclusion, it would be reasonable to suppose such obstructions would accompany each and every case of malocclusion or faulty eruption. But they do not. If mechanical obstruction of the postnasal space (or pharyngeal vault) were a causative factor, you might reasonably expect to find adenoids or fibromucous polypi in all these cases. But you do not.

Mayo Collier points out that nasal obstructions are rare before the 10th year of age, and, if this is so, nasal obstructions, as such, can not possibly be a factor in these anomalies. The fact that we do not find adenoids or polypi in all cases of faulty eruption, and in comparatively few cases of malocclusion, argues, it seems reasonable to suppose, that adenoids or polypi contribute but slighlty, if at all, to these cases, even though their presence causes marked changes in the nasal structures, and, as Bishop (Chicago) says, are oftenest seen before the 10th year of age.

It seems, therefore, as though there were factors other than nasal or postnasal obstructions to be reckoned with in these conditions, and to these I will now refer.

Heredity as a Factor

Like begets like. The laws of heredity are as constant as the magnetic needle, and are so well understood by those who make a study of either plant- or animal-life that many interesting and even curious results are obtained through selection, as well as a degree of perfection that would be otherwise impossible.

In ancient Greece the laws of heredity were so well understood that the result was the development of a people whose physical perfection we of today envy. It appears as though the people of this day and age do not understand nature's inexorable laws, or purposely disregard them, and the only race they will, or do, take an interest in is the race for the almighty dollar. Few there are, if any, who when they marry do so with the idea of reproduction, and this, in a manner I will explain, will account for the frequent sharp contrast in the physical or mental makeup of their offspring.

The degree of vitality of either parent will determine the sex of the child. This is sometimes referred to as the "law of compensation." Physical characteristics of either parent, if dominant, will be transmitted to the offspring if not offset or modified by opposite characteristics of equal intensity in the mate.

Determination of the Sex

For example: A father may be of stronger vitality and have strong facial characteristics not offset or modified by the mother. The resulting offspring will be a female, looking like its father. If the vitality of the father is the lower, the child will be a male, and will look like its father. A mother may be of stronger vitality and have strong facial characteristics not offset or modified by the father, and the resulting offspring will be a male and look like its mother. If that mother has the lower vitality, the child will be a female and look like her.

If the physical characteristics of one parent are partly offset or modified by opposite characteristics in the other, we then may expect a partial resemblance or a resemblance in various structures of the body. For example: The child will have eyes like one of the parents, and hair like the other; ears like one, jaws like the other. The nearer perfection the offset or modification, the more harmonious will be the blending in the offspring, and the several children may not resemble either father or mother in characteristic appearance, yet, easily be identified as children of the same parents. This will account for a child having asymmetry of facial structures; and, as we consider maturity and development, it will appear clearly what the most potent factors in dental malformations are.

Maturity and development are the gifts to the child through heredity, and are the chief factors in dental malformations and anomalies. Maturity and development should proceed together, but they do not always do this. We see children who are mature beyond their years, as well as those in whom maturity has been retarded; yet, they are normally developed.

This is noticeable from a mental as well as a physical standpoint. When maturity of the mental faculties of a child has preceded physical development, we call that child precocious. When development of the mental faculties has not kept pace with maturity, we call that child a backward child. When physical development has preceeded maturity, we see a child large for its age. When mental maturity has preceded physical development, we see a child small for its age, or one which in appearance and manner seems older than it really is.

Observations on 500 Infants

In about 500 cases where infants were born at term, I have observed that some were well developed but immature, some were mature but not well developed, but the majority seeming normally developed and mature.

In some of those children, the bones of the head were very firm; yet, the fontanelles were large and the sutures open. These were cases of advanced maturity with late development. In others, the sutures were well united and the fontanelles small; yet, the bones of the head were soft and yielding to pressure, springing back to normal contour when pressure was released. These were cases of advanced development with late maturity.

In others, development and maturity were quite early, the bones of the head being quite firm and unyielding, the sutures closed and the fontanelles small. There were cases of early development, as well as of early maturity. In others, the bones of the head were soft and yielding to pressure, the sutures open and the fontanelles large. These were cases of late development as well as late maturity. These peculiarities were observed in families as characteristic of their offspring.

A mother may develop early and mature late—a family characteristic. The father may develop late and mature early—also a family characteristic. The resulting children will develop and mature early, normally or late. A mother may develop late and mature late; the father may have normal development but mature late. Their children will have tardy development, with late maturity. A mother may mature early and develop normally, the father mature early but develop late. The children will mature early, with tardy development. If, on the other hand, we have both parents mature and develop early, and this is characteristic in families of both parents, their offspring will mature and develop early. If parental maturity and development is late, it will be late in the offspring.

Thus, it will be seen how the various types of dental malformations can be accounted for through heredity in those who present asymmetry of the facial structures, as well as in those who do not, for, by the advanced maturing of the maxillæ before the enamel-germ is thrown off, unusual and irregular

resistance is offered, and the enamel-germ is directed to the right or left, backward or forward, in the line of least resistance.

As to the Deciduous Teeth

The question arises, Why are the deciduous teeth rarely, if ever, crooked?

It is not difficult to answer this question when it is remembered how the enamel-germs descend in a vertical manner into the substance of the jaw, thus paving the way, as it were, for their line of cleavage and position when erupted. With the enamel-germs of the permanent teeth there is no vertical descent, but a backward extension into position. The position of the enamel-germ of the permanent tooth depends upon the resistance offered during the period of backward extention. The position of the permanent tooth depends upon the position of the enamel germ, and the resistance offered during the period of eruption, whether that be the early maturing of the maxillæ, the presence of a partly absorbed fang from a deciduous tooth, or both.

If the child inherits the teeth of one parent and the maxillæ of the other, the teeth may be either separated or crowded. This will explain why you will sometimes find a well-developed and matured maxilla with poorly developed teeth, a poorly developed maxilla with a well-developed and regular set of teeth, as well as irregular teeth in a normal maxilla. It will also explain in part why irregular teeth are not always accompanied by a high-vaulted palate and abnormalities of the nasal structures, although they are frequently associated.

You will observe instances—and many of them—where there are a high-vaulted palate, and normal teeth and nasal structures; also frequently you will find nasal obstructions, chronic rhinitis, with atrophy, yet, beautiful teeth as well as normal nasal structures and palate, but teeth, nevertheless, badly crowded. The high-vaulted palate, when not explainable through heredity, is commonly produced by immediate causes, to one of which I will refer.

It is a well-known fact that but few hours after birth some babies "sit up and take notice." I have seen them insist on looking at a lighted lamp while the nurse was making their initial toilet. They soon learn to cry; also, that a lusty cry brings someone to take them up and pay attention to them. The mother (if it happens to be the firstborn; sometimes in those following) finds that something in baby's mouth has a quieting effect, and a pacifyer is palmed off on baby as the "real thing," and is commonly used as a substitute for the sake of peace in the household.

Something else is taking place in the meanwhile. A pacifyer is somewhat larger, longer, and much more resistant than the mother's nipple, and, as it is pressed upward by the tongue, slowly but surely does it crowd the hard palate, the results of which, no doubt, many of you are familiar with.

It will be seen in lower animals how, by selective mating, almost any characteristic may be produced: in fowls and birds, even to the marking of a feather. Symmetrical and uniform features, well-proportioned structures—even to normal or uniform maxillary processes and teeth—can be produced in the human family, where asymmetry is not caused by immediate causes, heretofore mentioned.

Unfortunately, however, as there is little or no thought for the generation when the mate is selected, and the family-history is covered up almost always, the offspring often are given, as an inheritance, dental anomalies that places them at a disadvantage in their fight for existence. While at present we have but faint hopes to prevent most of these anomalies, we do have means at hand whereby all of these victims may be benefited. The orthodontist has shown us that, by early attention and proper treatment, very satisfactory results are obtained in malocclusion and in many cases of malformation.

It requires several generations to produce a symmetric strain or race by selective mating; but it is inevitable, even in the human family, where lineage is not contaminated by that disease which brings misery alike to king and to serf.

The Use of the Obstetric Forceps

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois
Professor of Obstetrics in Bennett Medical College, Medical Department of Loyola University

EDITORIAL NOTE.—This is the final installment of Dr. Rittenhouse's series upon the obstetric forceps. In this article he presents a use for this instrument that will seem novel and unusual to many of our readers. Do you agree with him that it may properly be used to prevent laceration? Let us have your opinion.

IV

Saving the Perineum

TO APPLY the obstetric forceps for the purpose of preventing laceration of the perineum sounds like a paradox. Nevertheless, if properly managed, this instrument may be made extremely useful for this purpose.

I have long maintained that the frequency with which laceration of the pelvic floor occurs in childbirth is the greatest reproach that can justly be brought against the profession today. Just what is the percentage of its occurrence, though, may be subject to a difference of opinion; it is difficult to get reliable statistics on the subject. But it seems to me that there exists no room for difference of opinion regarding the lamentable frequency of this accident or the indifference with which it is viewed by a considerable proportion of the medical profession. Its occurrence is regarded by many as a matter of minor importance, and it is thought that the placing of a few sutures relieves the doctor of any further responsibility.

Two Facts Regarding Perineal Laceration

Now, I contend that there are two tremendous facts bearing upon this subject, which should be persistently dinned into the ears of the members of the profession, until they receive the recognition which their importance deserves.

One of these facts is that a very large percentage of all primiparæ (certainly more than 75 percent) will be torn if no means of prevention is adopted; the other is, that immediate repair as generally practiced is a complete failure in a vast majority of the cases. I am not saying that the blame for ill result rests upon the general practitioner altogether. The obstacles in the way of good results are very great. The wound is extremely irregular and hard to approximate; some of the structures are deeply retracted; the tissues are in a condition resembling a severe bruise; keeping the wound aseptic for a week is almost impossible. In the face of all these conditions, and in view of the high degree of skill required to do the operation properly, we need scarcely wonder that the results are unsatisfactory.

But these discouraging facts are simply so many reasons for avoiding laceration. They justify the expenditure of almost any amount of effort and ingenuity if that holds out the slightest hope of diminishing the frequency of this unfortunate accident. And experience amply shows that there is such hope, if only the profession can be brought to realize that *living tissues will stretch to an almost unlimited extent, provided they be given time enough.* In other words, *time* is the one great factor in prevention.

How to Delay the Second Stage

The frequency of laceration is due to the fact that the child's head is forced through suddenly when dilatation of the vulvar ring is only partly complete. The problem, therefore, is, to make the last part of the second stage of labor so slow that the soft tissues of the pelvic floor may have time to stretch, instead of tearing.

Experience shows that this is best accomplished by the judicious use of chloroform and, if need be, the correct employment of a proper forceps. As soon as the perineum begins to bulge and the vulvar opening to dilate, the administration of chloroform should be carefully begun, the amount given being carefully gauged by the effect observed. In some patients the labor-pains are simply moderated in force and frequency in such a manner that perfect control of the advancing head is secured and the delivery made gradual enough to avoid laceration.

With the majority of women, however, something more is needed. In the case of these patients, complete anesthesia stops the contractions so completely that delivery is delayed indefinitely, while with any less degree of anesthesia the patient is unmanageable,

because she is only semiconscious and incapable of obeying orders. When she feels the impulse to bear down she may suddenly expel the head and cause the very accident we are trying to avoid.

In view of these facts, I have long made it my routine practice to begin the administration of chloroform as stated above and promptly to induce complete unconsciousness. Now, if the pains remain fairly frequent and powerful, I simply control the delivery to a safe conclusion, taking plenty of time. But, if the pains are almost entirely stopped by the anesthetic, I slip on the blades and by very careful and moderate traction complete the delivery.

With the patient asleep and the instrument grasping the head, I am absolute master of the situation. I can deliver as slowly as is necessary to permit stretching of the perineum, instead of its tearing; consequently I rarely have a laceration occur. And I may say, too, that when I try to delivery without the combined use of chloroform and the forceps I generally regret it.

The use of the forceps for the purpose here indicated is criticized by some, on the ground that it increases the danger of infection; others object that the instrument should be employed as seldom as possible, on general principles.

The first objection is shown by experience to be without force, provided proper asepsis is secured. The second one is mainly sentimental and springs largely from the prejudice prevailing among the laity against instrumental intervention. The remedy for this prejudice is more teaching, more explanation of the object to be attained. Patients or their friends seldom persist in their objections when I explain that what I am about to do is for the purpose of preventing laceration.

Other Methods of Prevention

Of other methods of preventing laceration, one, which seems to have some value, is support of the perineum by the hand. By retarding the advancing head, manual support may help, gaining some time and thus contribute toward a safe delivery; still, in my opinion, the same result can be better obtained by resorting to anesthesia.

In giving support with the hand, the perineal tissues may be crowded from the sides toward the median line, with the tips of the fingers on one side and the thumb on the other. This procedure undoubtedly has some value, although that value is lessened by the fact that the force is expended mainly upon the skin, while perineal lacerations usually start in the mucous membrane of the vagina.

Another method that has been much lauded is the application of hot fomentations to the perineum during the period of dilatation. Some years ago I gave this method an extended trial for a period of over three years, but there was no evidence that it was really effective. My percentage of lacerations was not nearly as low as it has been since the chloroform-forceps method, as described, has been followed. However, I can see no harm in the hot fomentations, provided proper precautions are taken against infection.

Incisions in Perineum Condemned

The method of making incisions on each side of the vulva when a tear seems imminent, in the hope of keeping the laceration lateral instead of its running backward through the perineum, I mention only to condemn. There are two objections to this method, either of which should be conclusive.

In the first place, while the tear may be started laterally, it often runs irregularly upward and backward in a manner more difficult to repair than if it were in the median line. In other words, it will not stay where it is put. Besides, there will be two wounds instead of one.

The other objection to the method is still more formidable; if it is resorted to at all, it often will be done unnecessarily. A case often looks hopeless when dilatation is half or two-thirds complete. It seems as if laceration were certainly about to take place; and, yet, we all have the experience that those cases frequently come through without injury. Suppose the operator had cut in such a case. It would have been malpractice. No human being is wise enough always to foretell whether a given perineum is going to give way or not; and, therefore, it is better to adopt the optimistic course and try to save every perineum, even though there always will be an irreducible minimum in which no amount of skill can prevent an accident.

Vaccination Against Smallpox

A Story of Experiences Upon an Indian Reservation

By JAMES L. NEAVE, M. D., Dresden, Ohio

IN MY younger days I was in Government service, on the frontier, in charge of some 1500 Indians, and practice among these people, as we well know, in no way resembles practice among whites. It can readily be imagined that these half-savage redskins did not take kindly to being vaccinated; still, at one time, when they were under the stimulus of an epidemic-scare, I did manage to vaccinate a large number of them, although I found it impossible to more than approximate results, while succeeding in keeping only a moderate proportion under observation.

An Experience Among the Indians

One winter, when variola was increasing to such an alarming extent in the States, and also was showing itself in isolated instances in frontier towns about us, I obtained some crust bovine-vaccine. (This was before the days of the lymph in sealed tubes.) Proceeding to vaccinate the Indians under my care, I used the scarifyng vaccinator, introducing the virus in two places in the left arm.

Among those whom I thus vaccinated, 187 were primary cases, while 152 of them showed scars of a previous inoculation. Of those in the first class, I succeeded in tracking 90 successful "takes." In the second class I traced 15 successful and 42 unsuccessful inoculations. From my knowledge of these people, I have good reason to believe that the percentage of primary successful vaccinations was much larger than would appear from the figures given. The subjects unaccounted for never reported to me; which was satisfactory evidence to me that in the majority of cases not reported the virus had worked successfully, for the Indians were thoroughly aroused on the subject and each anxious "to have a sore arm."

Of the 90 individuals seen, the majority manifested more or less constitutional disturbances of varied character: fever lasting from two to five days (in several instances, even longer); headache, backache, and pains in the limbs being most frequently complained of. Several were so sick that their relatives thought there was danger of death and asked whether they had not better get the grave ready. (Indian religion will not permit a dead body to remain in the "teepee" for one single minute after death. I have known them to place a dying person outside the door, so as not to have him die in the house.) The symptoms, of course, really indicated nothing so serious as that, but it seemed so to them; and I instance it in order to show how severe the general manifestations were.

Now as to the local effects of the bovine-crusts vaccination of the olden days. There occurred among those vaccinated a number of cases of erysipelas which extended from below the elbow to the shoulder. The arm, as a rule, was immensely swollen, often indurated for two-thirds the circumference, red, tense, and painful. Enlargements and irritation of the axillary glands was present in nearly every instance, while there were two cases of axillary abscess. The resulting scabs mostly were of the size of a silver quarter, some even as large as a silver half-dollar piece. When these crusts were removed early, there was left a deep circular ulcer, some one-fourth of an inch deep, these filling slowly by granulation.

Cases Among the Whites

To the cases occurring among the whites at the Agency, I was able to give closer personal observation than I could among the Indians, and these were closely watched and proved extremely interesting. Among the whites, I used bovine quills, and with the following results: Primary cases, 4, all successful. Secondary vaccination, 15; of these, 8 were successful, 3 partly so, and only 4 failures. Among the 8 successful cases, all of whom had good scars of previous vaccination, (performed, however, many years ago), there occurred 2 cases of erysipelas, checked, however, in their incipiency.

All the whites vaccinated suffered more or less from fever, loss of appetite, sleeplessness, and extreme swelling of the arm, accompanied by tender and enlarged axillary glands. All had large scabs, with deep ulcers marking their seat when removed. The 3 partly successfully vaccinated persons had all these symptoms, only in less degree, of shorter duration, and with scabs but partly formed and showing but little ulceration.

Of the primary cases among the whites, 1 individual experienced no constitutional disturbance of any kind; still, the inoculation was eminently successful. A second individual developed high fever, which assumed an intermittent character and lasted four days; also, racking pains in the back and limbs, total loss of appetite, heavily furred tongue and a roseolar eruption lasting one day; arm much swollen, tense and indurated; resulting scabs large, leaving large cavities.

The third case was the most remarkable of the series, in a child of two years. For a week after the introduction of the virus, nothing was noticeable, excepting the persistent freshness of the scarified places of introduction.

Then the virus manifested itself in the usual manner. The swelling, however, came on rapidly, the entire arm becoming red and angry with erysipelas. In a few days the wounds were surrounded by hundreds of points of variolous eruption, having the umbilicated center. The local irritation immediately about the points of introduction of the virus became greater from day to day; until finally slight gangrene supervened, with superficial sloughing of tissue at these two points, each a space of an inch or more in diameter, and having the peculiar odor of gangrene. The resulting ulcers were filled with healthy granulations and healed rapidly, until all closed, excepting a space equal to the original scarification, which healed by scabbing. The child was put on syrup of ferrous iodide, 4 drops every four hours; and complete recovery came in six weeks.

A First Experience with Bovine Virus

This was my first experience to any great extent, with bovine virus. I had used it in a few cases before, but this time I learned some things by considerable experience. Two years before I had used the quills, but this was my first trial with the crusts—and my last.

I have never had any difficulty in getting the virus to "take"; on the contrary, the percentage of "takes" was large, at least 85 percent. I seldom had failure among primary vaccinations—in point of fact, I had not a solitary failure in primary cases among the Indians. There may have been such, but I was unable to trace them.

As a rule, I found the virus to work slowly. I always waited more than a week before I would revaccinate, as I found that at least that much time must elapse before there are any manifestations of any kind. Then, again, I noticed that ordinarily the bovine virus was much more severe in its action, both in the local irritation and also in the constitutional disturbances induced, than I ever had known humanized virus to be.

At the present time it is not a choice between humanized and bovine virus. There can be no question today as to which should be used. Whatever prejudice against vaccination may have existed in honest scientific minds, was all caused by a suspicion, amounting to a certainty, that there might be, there probably was, a valid objection to the humanized virus. Even granting this fact, no up-to-date, broad-minded professional man will ever speak or write against the value of vaccination itself. If any scientific fact was ever proven, it certainly has been proven beyond all cavil that vaccination has driven smallpox from many quarters where formerly it existed as a scourge.

The experiences detailed in this article are not intended as a demonstration in favor of those who oppose vaccination. My experience was not a pleasant one. Immediate results were not pleasing—but the treatment certainly was effective.

To this day, smallpox has been, and is, unknown among my Indians, where in former days the ravages were frightful. Certainly something caused improvement among those people, and vaccination was the only measure utilized in the elimination of that disease.

Had I been governed by appearances only, taking into consideration local and constitutional irritation, some individuals undeniably being sick after the operation, I could have jumped to the conclusion that the remedy was worse than the disease. But I kept my wits about me and refused to be stampeded. I take it as truth, that, of all classes of men, it behooves the physician to keep his eyes open and learn. In this way only can he advance in his science.

The Perfected Bovine Virus of Today

My observation told me several things. The bovine virus needed perfecting. In its form as I knew it at that date, it was crude—in the crust form the virus certainly was crude and imperfect. It was necessary to improve the virus—not to condemn it.

Of late years, this needful improvement has been accomplished, and the perfected virus, as now placed on the market by responsible dealers, is absolutely safe from infection, such as was formerly, and with some reason, claimed for the old-fashioned humanized virus. And it is positively protective

in its action against smallpox, so that there is absolutely neither sense nor reason in the crusade against vaccination. The only limit to the use of bovine virus should be that the use of crusts should be prohibited.

Another thing as to the use of bovine virus. Its local action in many cases is inclined to be severe. Therefore, experience taught me to introduce it in but one single place in each individual. It is better to repeat the operation, in case of failure—which is rare—than it is to have two points of insertion "take" in the same individual simultaneously. The additional insertion is not necessary, and the protective power is no greater for having made two insertions at the same time.

Certainly, I think the day has now surely come when vaccination should be made compulsory wherever civilized government is established. Bovine virus as now especially prepared should be made the legalized form. And one step further: the use of humanized virus should be outlawed, and it should be a punishable offense to make use of it. And it seems to me that, in the light of science and example as seen today, no man, especially an intelligent observing physician, can consistently oppose vaccination. Certainly, he can not read and observe, and then honestly condemn its practice. To abandon vaccination today would be a disastrous setback to the world.

Some New and Important Laboratory Diagnostic Tests

How to Elicit Them, and What They Mean

By J. FAVIL BIEHN, A. M., M. D., Chicago, Illinois
Director of Clinical Laboratories, The Abbott Alkaloidal Company

AMONG the many new laboratory reactions of value in diagnosis, there are several that have recently been proven of definite worth, and these I wish to bring to the attention of the readers of CLINICAL MEDICINE.

One of the latest, most novel, and yet most important of these tests is the sero-diagnosis of pregnancy, known as Abderhalden's test.

Abderhalden's Sero-Diagnosis of Pregnancy

This test is performed by incubating the serum of a woman thought to be pregnant, for a number of hours, together with a small portion of sterile human placenta, this placenta having been so prepared that it can contain no free soluble protein. As a result of this treatment, if the woman is pregnant, a soluble protein will be formed which will dialyze (pass through animal membrane) readily. The dialyzate thus obtained is then tested for soluble protein (peptone) and if this substance is found present, and provided proper controls are made, the reaction is considered positive, in other words the woman is pregnant.

This serum reaction is known to occur as early as the first or second week following conception, probably earlier, and it persists practically throughout the entire pregnancy. While the field for this test is limited, yet there are times when it should be of the greatest value.

Among the conditions in which the Abderhalden test is particularly valuable are abdominal tumors simulating pregnancy, extrauterine pregnancy, and suspected pregnancy in unmarried woman. Blood obtained during the menstrual period does not give the specific response. Nearly all authorities agree that the elicitation of a positive Abderhalden reaction is an indication that pregnancy exists.

The Wassermann Reaction

This test now in general use for the diagnosis of syphilis, has been known for some time and is being made by most laboratories, either in the original or some modified form. In the minds of some practitioners there seems to be a question as to its reliability. This I believe is due to the fact that many laboratories, not having the facilities to secure the original reaction which requires considerable time and much care in technic, are using the various modifications, none of which so far have established a reputation for reliability. Personally, I should not rely upon any of these modifications.

It is essential that the physician should understand the limitations of this reaction. It is rarely positive during the first month following syphilitic infection. Therefore, if a diagnosis of a recently infected case is required and if the primary lesion is in evidence, smears of this lesion should be examined for the treponema, and it is well to remember that this examination should be performed before any treatment is instituted, since such treatment may modify or mask findings. The same is true of the Wassermann test. It is essential that no antisyphilitic treatment be given for three or better four weeks previous to taking blood for the Wassermann reaction, since such treatment may cause the reaction to be negative.

Secondary, untreated tertiary, florid and hereditary syphilis, and also cases of paresis, show a high percentage of positive reactions. Tabes and latent hereditary syphilis rarely show more than 60 percent of positive reactions. In tabes, however, the positive reaction may be obtained from the cerebrospinal fluid, even if the blood gives a negative reaction. Further, the ingestion of large amounts of alcohol may mask the reaction. The only conditions so far known in which a positive Wassermann reaction may occur, other than in syphilis, are leprosy, malaria, and yaws.

The Complement-Fixation Test for Gonorrhea

In a suspicious case, especially of the chronic type, the complement-fixation test for gonorrhea is a valuable diagnostic aid. In fact, it is probably the most reliable test we have for the presence of this disease. Many acute cases do not yield a reaction, but when this is the case a diagnosis can usually be made by locating the gonococcus, microscopically or culturally. The cases difficult of diagnosis are usually the chronic ones, and it is particularly in these cases that the complement-fixation test is of value.

Complement-Fixation Test for Rabies

In the Research Department of The Abbott Laboratories my colleague, Dr. C. A. Zell, has recently perfected a complement-fixation test for rabies. A large number of experiments have been made and thus far we have been unable to obtain this reaction in animals not proven on subsequent investigation (postmortem examination for Negri bodies) to be definitely attacked by the disease.

This reaction occurs in experimentally infected animals within three or four days after inoculation, and in all cases examined in which the clinical symptoms were at all questioned we have been able to make diagnoses. Also, in a number of cases, dogs in which rabies was not even suspected, dogs that were obtained from the pound to be used for other work, were found by this test to have the disease. The results were verified by the finding of Negri bodies in every case.

This reaction is of value in the early diagnosis of rabies since we can examine the serum of a dog who has bitten persons and who does not show the characteristic symptoms, thereby making a diagnosis, positive or negative, without destroying the animal. If the reaction is positive, the treatment may be instituted immediately; if negative, the animal can be held and the blood examined again in ten days or so; if the reaction is still negative, there is no danger of rabies.

The great advantage of this new test is, that if the animal had been killed at first, the Negri bodies might not have been found, yet the animal upon subsequent examination, if allowed to live, might have been shown to be in the early stages of the disease.

Furthermore, by means of this test patients who have taken antirabic treatment can be assured of its efficiency. One or two weeks after having completed treatment a sample of the blood should show a positive complement-fixation reaction indicating the presence of immune bodies. Heretofore, it has not been possible to prove definitely that the patient was properly immunized by the Pasteur treatment.

We do not know as yet just how soon the reaction will become positive after a human patient is bitten. Unquestionably, however, if the infection has occurred as a result of a dog's bite the reaction would be determined as soon as the incubating period is well established. However, it is advisable that the Pasteur treatment be given immediately in all cases in which persons have been bitten, if the animals are at all suspected of having rabies.

This reaction is of value to boards of health, since it is very definite and will allow of a diagnosis being made without destroying the animal, thereby permitting holding the animal for clinical observation in the event that the disease may develop later in the individual who has been bitten. Also, valuable dogs suspected of having this disease may be saved from unnecessary destruction. This is impossible by any other present known method, except by isolation of the animal and observation of the symp-

toms of the disease, which in negative cases is practically unavailing.

How to Secure Blood-Serum for Diagnostic Purposes

In order to make any of the preceding tests (Abderhalden, Wassermann, gonorrhea, or rabies) 2 Cc. or 3 Cc. of clear sterile blood-serum are required. Serum for this test is obtained as follows:

With a sterile syringe withdraw 5 to 10 Cc. of blood from one of the superficial veins, those of the bended elbow usually being selected. This blood is placed in a sterile vial and allowed to clot. The clot is separated from the side of the vial and allowed to sink to the botton. Then, with a sterile syringe, the clear serum is withdrawn from the clot, placed in a sterile vial, and mailed to the laboratory. At least 2 Cc. (30 minims) are required. The serum must be perfectly clear and sterile. It may be separated immediately by centrifuging the blood as soon as withdrawn. It is essential that no red blood corpuscles or hemoglobin be obtained in the serum.

These tests are all of very great importance, adding greatly to the diagnostic skill of the physician and, secondarily, to his therapeutic efficiency. The writer hopes that many readers of CLINICAL MEDICINE will make use of them in his professional work, and report.

The Treatment of Drug Addictions

By A. K. DETWILER, A. B., M. D., Omaha, Nebraska

EDITORIAL NOTE.—New interest has been given to the problem of narcotics through the effort to secure proper legislation to control the sale of habit-forming drugs in this country. That these drugs are used far in excess of actual needs every physician knows, for he has to deal with the result—and the result is the habitue, the "fiend." Dr. Detwiler's paper is a very timely one.

AMONG the many problems that confront the physician on the border-line between internal medicine and psychiatry, none are more important and interesting than that of the drug-habitués. With these people there is always some real or imagined physical derangement, some weakness, or some impairment of the intellect, feelings or will which adds complexity to these distressing problems' Ever since the time when, during my student days, Erlenmeyer's book on the morphine-habit fell into my hands and just when a physician's wife addicted to the drug came to the place where I lived my attention and sympathy have been directed to this class of people.

Among those addicted to drugs, there are so many factors to be considered that it is not claimed that an absolute cure can be effected in every instance. Many of these people are weak of intellect or morally perverted, some even are feeble-minded, others have been suffering physical or mental pain, yet others have tried to ward off failure or to stimulate their flagging intellect in the hope of gaining success where failure seemed inevitable.

The ease and quickness with which morphine relieves pain and distress is well known to all, so that even if the patient has abandoned the drug and the temptation again returns, the knowledge of this fact is the cause of many a relapse.

Cocaine is a powerful stimulant and gives the feeling of mental and physical fitness which seems to make even impossible dreams possible. But after a few months' use this is followed by delusions of persecutions and of the conviction that the world is against them; and, while they dread their slavery, they continually revert to it.

With alcohol it is different. Alcoholism is a social disease, and not a secret vice. Men and women cannot realize that they may not take even one drink or drink in moderation, and it sometimes takes several bitter lessons to convince them of the fact. There is no compromise, and they must realize that even a single drink of an alcoholic beverage may blot out the sensibilities and bring back the danger of alcoholic excess. In many instances, alcohol produces nervous lesions which cause a weakened mentality. Those whose emotional natures demand and enjoy excitement, and in the effects of the drugs find gratification of their cravings, may need partial restraint, and substitution of normal forms of stimulation before they can be started toward better things.

But it is in those, formerly, almost hopeless cases, where weakness of the will and lack of decision, as well as absence of desire to mend their ways, prevented a return to normal life without the use of stimulants, that the present mode of treatment presents its best opportunity for successful management.

Where the habit had been induced by some definite pathological change which was removable, success ordinarily followed the withdrawal of the drug after removal of the cause. But those cases which depended upon obscure, perhaps hereditary nervous derangement, where persons took the drug without definite purpose and did not wish to give it up—in other words, the purely psychical—were always doubtful ones; and while with greater or less pain or suffering the drug could be withdrawn, the outlook was gloomy and obliteration of the craving was uncertain if not impossible.

Towns and Lambert Rapid Withdrawal Method

But now, since the introduction of the Towns and Lambert method of rapid withdrawal and treatment, one can promise the patient and his friends the rapid and complete obliteration of the craving and assure them that the suffering will be reduced to a minimum in time and amount. Ridicule and doubt usually meet the assertion that it is possible to remove the desire for cocaine, alcohol or morphine in four or five days with very little suffering to the patient, even if he is not anxious to overcome his habit and is weak of will. But it is in just this kind of cases that the stimulating and antidotal effects of the treatment are most effective.

This method, while best carried out in a hospital or other institution, can be conducted in a private house with the aid of a nurse, and its main features are these: free elimination and purgation, accompanied by the administration of this almost specific mixture: 2 parts of 15-percent tincture of belladonna, and 1 part each of fluid extract of hyoscyamus and of fluid extract of xanthoxylon. In order to get positive, definite result from this mixture and to remove the nagging desire for the drug, this mixture must be given almost to the point of intoxication; in other words, 6 or 8 drops must be given in a capsule every hour as long as no signs of belladonna poisoning are evident. It is diminished or stopped if the patient at any time shows specific symptoms, such as dry throat, redness of the skin, dilated pupils, the peculiar sharp, incisive voice, and fixed ideas. To achieve success, belladonna intoxication must never quite be reached, but only seen dimly in the distance.

To begin the treatment of the morphine-habitué, the estimated daily dose of drug is divided into 4 parts, all to be used if necessary. To start with, 5 compound cathartic pills are given, and if these do not act in four or five hours they are followed by a saline laxative; then half the daily dose of drug is given, together with 6 drops of the belladonna mixture. This mixture is kept up every hour for six hours, and then increased by 2 drops every hour, if there are no symptoms, until 15 drops is reached.

After ten or twelve hours from the beginning of the treatment the patient is again given 5 compound cathartic pills, followed by the laxative saline if necessary. When these have acted thoroughly, the second dose of drug is given, this consisting of one-fourth of the daily dose. The belladonna mixture is still continued. Twelve hours after the second dose of the drug the cathartic pills are again repeated as before. After these have acted, one-half of the remaining quantity of drug is given if necessary. This usually is the patient's most uncomfortable period, and at this time 2 ounces of castor oil is administered, and the intestinal canal thoroughly cleared out.

The object of this treatment, of all this purgation and medication, is to avoid the nagging diarrhea which frequently is the most annoying symptom of the withdrawal of the morphine.

The Supportive Treatment

If the heart flags at any time, cardiac stimulants such as strychnine, digitalin, or both, are indicated. Simple nervousness can be controlled, if necessary, by the administration of wet-packs, full doses of bromides, or codeine in from 1- to 5-grain doses. To overcome the exhaustion and relaxation when they are off the drug, the tonics which do most good are arsenic, phosphorus, and strychnine. During the treatment, the fullest possible diet of eggs, cereals, milk, and other easily digested food is to be given. Some have a good appetite from the beginning. Others begin in a weakened condition and do not eat until after the treatment is ended; then the appetite usually becomes vigorous and care must be taken that they do not overeat. It frequently happens that the gastric distress and intestinal discomfort are ascribed to the withdrawal of the drug, when it really is due to overeating. In such cases, if the stools become clay-colored and the patient feels

nauseated, nothing acts so well as the bile-salts in 1-grain doses, repeated every hour for five or six doses.

To Wean the Alcohol-Addict

The treatment of the alcoholic with this combination of drugs differs only in so far as the latter displays increased sensitiveness to the belladonna and he is much more likely to show slight delirium than the morphine- or the cocaine-habitué. This delirium must not be confounded with the furious delirium produced by alcohol. The belladonna delirium usually is confined to one or two insistent ideas, while the hallucinations from alcohol follow each other with great rapidity, or there is occupational delirium. When these symptoms of poisoning occur, the medicine must, of course, be stopped, to be started again with the original smaller dose.

When the treatment of the drunkard begins in the middle of a debauch, the first necessity is that he sleep, and the only treatment which precedes the hypnotic is the compound cathartic pills. Chloral in 15-grain doses or paraldehyde in 1-dram doses, or both if necessary, is given to induce sleep. If these are not effective within two or three hours, we give a hypodermic injection of 1-10 of a grain of apomorphine, 1-20 of a grain of strychnine, and 1-150 of a grain of hyoscine. If the patient goes to sleep easily, he is wakened every hour for his medicine; if not, he is allowed to sleep. The cathartic is repeated, with the addition of 5 grains of blue-mass, at the end of twelve or fourteen hours.

Old or very weak and nervous patients should have, with their milk, 1 or 2 ounces of whisky four or five times a day for the first thirty-six hours. Young and vigorous patients may need more hypnotic medicine, and it may be possible to carry them through without further administration of alcohol. If the patient has an alcoholic gastritis and cannot retain the medicine, that condition must be relieved first by means of Tully's powder; sodium bicarbonate and bismuth subnitrate.

The Care of the Cocaine-Habit

With the cocaine-habitué the treatment is varied only by adding strychnine at the very beginning, while no cocaine at all is ever given. Frequently we meet such patients who take more than one drug and then the treatment must be more prolonged. Sometimes the nervous symptoms are most marked, and with the withdrawal of the drug the mind begins to waver and they lose control of ideas and misinterpret sensations and emotions, there also are jactitation and a low, muttering delirium, and the patient begins to toss and thrash himself about furiously. Under these circumstances nothing equals the hypodermic injection of the old Livingston solution of ergot, repeated every two hours in bad attacks. It is occasionally necessary to continue this for two or three days.

No Craving Remains

After the vigorous elimination ensured by this treatment there remains no craving for the drug, but the patient feels exhausted and languid, and he may be sleepless. For the first few nights, if there is insomnia, they should receive bromides in full doses or some hypnotic, such as medinal or trional. For the languor, tonics should be given at regular intervals; and glycerophosphates with arsenic are quickly acting and of great service. This toning should be continued for several weeks, while the diet should be easily digestible and abundant.

If the narcotic craving is not the symptom of some mental state that remains after the habit-drug is removed, the patient will be cured, and most morphinists are so glad to be freed from their slavery that they will not return to the drug.

With the alcoholic is it different. This treatment will do all that can be done for the one who wishes and desires to be cured. It will establish self-confidence to go on without it, but as long as he lives he can not touch alcohol in any form whatever without danger of relapse. When these people realize that they can not drink in moderation, and acknowledge the fact to themselves and others —it may be after many severe lessons—then there is certainty of cure.

Care in Detail

The successful issue of this plan of treatment depends upon the carrying out of the minute details, and unless this is done the treatment will fail. Patients rarely begin with any confidence of success and they must be placed where they can be carefully watched and guarded.

This treatment is not offered as a cure for the degenerate or mental defective, but it will obliterate the craving for narcotics in a short time and leave the patient in the best possible condition to regain normal and vigorous health, free from morbid desires.

WHAT OTHERS ARE DOING

TYPHOID FEVER IN THE COUNTRY

In his message to the New York Legislature on the subject of public health, Governor Sulzer points out that the death rate in cities has steadily fallen and is now below the rural and the village rate. Especially is this true as regards typhoid fever. Thus, for instance, 1128 individuals succumbed to this disease in New York State during the last year, and the Governor claims that this number is too great by at least 1000. He therefore warmly advocates the establishing of a commission whose object is to be to ascertain how the death rate for villages and the country can be made to follow the urban rate in its downward course, the former showing a steady rise.

CALCIUM DEFICIENCY IN HEMORRHAGE

Disturbances of the calcium metabolism may be the cause of obscure uterine bleeding, according to Beckwith Whitehouse. (*Practitioner*, June, p. 952.) If the calcium content of the blood is deficient, the coagulability of the latter is defective, and hemorrhage results. Such a patient presents no physical signs, as a rule. The only indication of calcium deficiency, as a cause of metrorrhagia, observed by him, is its occasional association with urticaria. He finds that occasionally the combination of thyroid tissue with calcium is efficient.

SALVARSAN AS A CURE FOR PERNICIOUS ANEMIA

Byron Bramwell gives an account of 11 cases of undoubted pernicious anemia and of 1 doubtful one, treated by salvarsan. Writing in *The British Medical Journal* for May 24, page 1093, he says that, of the undoubted cases, 4 apparently have been cured, although whether a relapse will occur he is unable to say. In 2 of the remainder there was very striking improvement. In 1 case there was considerable improvement, followed by relapse and death. In 1 there was slight improvement, but death ensued from bronchial pneumonia while he was under treatment. In 2 cases there was no improvement, and in 1 slight improvement, the patients being still under treatment.

Dr. Bramwell gives salvarsan intramuscularly, but has substituted neo-salvarsan, because it produces less marked local reaction. The dose employed was 0.3 Gm, half the dose usually given in syphlis. In every case reported, a number of injections were given, usually at intervals of a fortnight or more.

CONSERVATIVE THERAPY

"Conservative therapy" is the eminently appropriate way in which the German medical profession speaks of remedial efforts as opposed to the surgical, or operative, method of dealing with pathologic conditions. There still are (or again are?) doctors in the Old World who believe in medicinal treatment. There once was a time when a doctor was a doctor, and when surgical interference, as the exceptional way, was marked by a specific designation.

THE TECHNIC OF BACTERIN TREATMENT

Athole Ross contributes to the July number of *The Practitioner* an interesting article upon "The Vaccine Treatment of Infectious Diseases." At first, he tells us, injections were given subcutaneously at 10-day intervals. There was a good deal of constitutional disturbance, including headache and general malaise. At the same time there was some local reaction, shown by redness and swelling at the site of injection. In order to avoid these unpleasant consequences, he reduced the dosage by about half, giving intramuscular injections every five days. This change was followed by improvement both as regards the local and the general reaction.

The temperature-chart, together with the clinical condition of the patient, serves as the sole guide for dosage. Any pronounced rise of temperature of more than twenty hours' duration after inoculation, together with constitutional disturbance, is considered a negative phase, and is a sign for the reduction

of dosage. As a rule, however, the 5-day interval was maintained.

Ross advises beginning with a reasonably small dose, then gradually increasing until a safe maximum is reached. He insists upon the use of the 4-hour chart.

Children, he says, are more sensitive in their reaction to bacterins than adults.

As to the site of injection, a different location, so far as is possible, is selected on each occasion, since antibodies are formed locally at the site of puncture. The calves of the legs and the thighs usually are chosen for the intramuscular injections in children when the development of the arms is poor. The following table gives the approximate doses of the principal pathogenic bacteria employed:

Bacterin	Millions
Staphylococcus albus	100 to 200
Staphylococcus aureus	50 " 150
Streptococcus pyogenes	5 " 20
Pneumococcus	3 " 10
Gonococcus	3 " 5
Bacillus coli	50 " 150
Bacillus typhosus. (Used as a prophylactic inoculation.)	500 " 1000
Bacillus acnes	5 " 10

BACTERIAL TREATMENT OF ACNE VULGARIS

Athole Ross (*Practitioner*, July, 1913, p. 96) had good results from the bacterin treatment of acne vulgaris, 27 cases being treated by him. Of these, 19 patients were cured and 8 improved. For the most part, they were treated with stock bacterins, these usually being either the staphylococcus albus or mixed staphylococcus albus and aureus; but the bacillus acnes also was employed, together with the white staphylococcus.

The majority of his cases were of the frankly suppurating type, with long histories and where there was severe facial scarring; and in these the role of the staphylococcus assumes much importance. In all cases in which blackheads were found present or the bacillus acnes could be demonstrated, a stock bacillus acnes vaccine was used in conjunction with staphylococcus albus vaccine. One patient in whom all the lesion conformed to the blackhead type was treated entirely with stock bacillus acnes, and in another instance an autogenous bacterin was used, but with no better results than could be obtained from the stock strains.

The most generally suitable dose is from 5,000,000 to 10,000,000 bacilli. Ross asserts that a tendency to relapse is common in cases of facial acne, but these patients nearly always derive much benefit from the treatment. If a second or third course is found necessary, the patients rarely are as bad as when treatment was begun and respond very readily to a smaller number of injections.

THE RELATION OF AUTOINTOXICATION TO INSANITY

In a paper on "The Relation of Autointoxication to Certain Psychoses," Dr. W. D. Partlow (*Southern Medical Journal*, Dec., 1912) says that, except in the totally degenerate, idiotic, imbecile, feebleminded and paranoiac types, insanity is viewed, usually, not as the effect of some one specific cause, but rather as the result of a combination of causes partly predisposing and partly exciting.

In those individuals who possess the underlying predisposition, autointoxication is by far the most prolific and most prevalent exciting cause of psychoses, disturbing as it does their delicate mental balance, thus precipitating attacks.

While autointoxication appears to be almost the sole exciting cause in only a few groups of the very prominent psychoses, aggregating a minority of the total of such patients treated, the author believes that it plays an important role along with the many other etiologic factors in precipitating a large majority of the psychoses. So evident is this that, as a routine, the greatest active effort at therapeutics is along lines looking toward the correction and relief of autointoxication.

FUCHSIN IN IMPETIGO AND OTHER PUS INFECTIONS OF THE SKIN

For the treatment of impetigo in children, Triboulet advises the local application of fuchsin (*Le Nourrisson*, 1913, No. 1), the solution he employs being that generally used in the laboratories for the staining of Koch's bacillus; viz.:

Fuchsin	Gm. 1
Absolute alcohol	Gm. 10
Phenol	Gm. 5
Distilled water	Gm. 100

After having softened the crusts by means of hot compresses, Triboulet applies to each lesion a cotton tampon wet with the fuchsin lotion; this application being repeated daily. This dries in place, forming a reddish film, which effectually isolates the impetiginous elements from contact with the air. It is not unusual to see the crusts shrink to the point of becoming punctiform in eight, or six, or even three days. When reaching this size, the last vestige of the eruption can be

removed by placing a small drop of the fuchsin lotion upon the cicatrix thus uncovered.

While this preparation easily overcomes impetigo, it should not be applied to an impetiginous or recent eczema. However, this treatment can effectively be employed also in ecthyma, in the confluent and penetrating crusts of varicella, in infected pemphigus, and in the diverse pyodermatites. Aside from showing so prominently on the skin, there is no other objection to the fuchsin, except that it is very penetrating and stains the clothing. This inconvenience, however, should not prevent its employment in the troublesome affections of the nursling.

THE BACTERIN TREATMENT OF BOILS

In the July number of *The Practitioner* (p. 96) Athole Ross reports 80 cases of boils, infection being due to the staphylococcus pyogenes aureus, which were treated with bacterins. Of this number, 48 were cured, 12 improved, 2 relapsed, 3 were benefited, and the remainder defaulted in completing the course. In nearly all these cases, the patient had proved resistant to the usual surgical measures, and the majority had suffered for six weeks or more, and in some instances for several years.

In the 48 cases in which the cure was complete, stock bacterins were used 36 times, and autogenous bacterins, 12 times. Ross asserts that "good stock staphylococcus-aureus vaccine is more often than not quite successful in cases of furunculosis."

PICRIC ACID AND CAMPHOR IN THE TREATMENT OF RINGWORM

Agnes Savill, writing in *The Practitioner* (July, p. 94), states that for the last year she has used the picric-acid and camphor lotion, as advised by Williams, in practically all cases of ringworm seen at the Women's Hospital for Children and the Fitzroy Square Skin Hospital. She has a record of 50 cases, and acquired a reputation of being able to cure the disease within three weeks. The formula of the solution employed is as follows: Picric acid, 14 grains; camphor, 1 ounce; alcohol, 1 ounce.

Before applying this lotion, the hair should be cut around the diseased patch; and it is quite important that, when the scalp is concerned, it should be cut short two or three times a week, so that the lotion can penetrate to the skin. The remedy is painted on with an ordinary camelshair brush morning and evening. In about three or four weeks the hair becomes loose and can readily be removed with an epilation-forceps.

THE BACTERIN TREATMENT OF CARBUNCLE

Athole Ross, in *The Practitioner*, July, p. 96), reports 14 cases of carbuncle treated with bacterins. Of these 14 patients, 8 were cured, 3 failed to carry out treatment, and 3 ended fatally. A reliable stock vaccine was employed, as a rule. In the majority of instances, the presence of the staphylococcus-aureus was confirmed by culture before the vaccine treatment was undertaken.

As Ross points out, the subjects of carbuncle usually are elderly individuals and in bad general health. It is his belief, therefore, that the results given are unusually satisfactory. Of course, the usual surgical and medical measures should also be employed.

CAMPHORATED WATER VS. THE OIL FOR HYPODERMIC MEDICATION

Inasmuch as the use of camphor (in the form of the oil-solution hypodermically administered) appears to be gaining in favor, and more particularly so as a remedy in pneumonia, as also in infantile intestinal troubles, the studies of H. Leo, published in the *Deutsche Medizinische Wochenschrift* (1913, p. 591), may be of interest.

Dr. Leo, after extensive investigations, has arrived at two conclusions, as follows: (1) A saturated aqueous solution of camphor acts exactly like the oil. (2) The response is far more prompt. (3) Parallel results are obtained from relatively much smaller doses of the drug; that is, when the camphorated water is introduced into a vein. (4) Action is fully as persistent. The intravenous injections, it should be stated, however, were so far performed on animals only.

The best method for obtaining a saturated solution of camphor in water, as evolved by the author, is, to add a surplus of finely powdered camphor to a cold Ringer's solution (used for biologic experiments) and agitate this for several days in a revolving shaker. After filtration, the proportion of camphor held in solution is 1 : 500. When warmed, this water turns turbid, the substance being less soluble at elevated temperatures.

Ringer's Solution.—The formula for this solution (also termed Ringer's mixture) given in Dorland's Medical Dictionary (1912) does not agree exactly with that published in the

Pharmazeutische Zentralhalle in 1911 (p. 51), in which latter the proportions are as follows: CaCl 0.24; KCl 0.42; NaCl 7.50; water, 1000 Cc. See also page 591, July issue of CLINICAL MEDICINE.

PRINCIPLES OF THE TREATMENT OF GONORRHEA

In a review of the subject of the diagnosis and treatment of gonococcic urethritis and its complications, Carl Bruck, of the Dermatologic Clinic at Breslau, arrives at the following conclusions, as published in the *Therapeutische Monatshefte*, 1913, page 1:

Modern, rational treatment demands: (1) Destruction and removal of the gonococci, without causing, if possible, an increase, yet positively not suppression of the inflammation of and secretion by the mucosa; i. e., bactericidal therapy. (2) After positive elimination of the gonococci, overcoming the remaining clinical symptoms; i. e. astringent therapy. The former object is attained best by means of silver-ablumin preparations, because of their several well-known properties, foremost among these being their certainty, penetration, and total absence of astringent, anticongestive action.

Hence, in practice, the procedure should be: (1) The careful injection, by experienced men, of silver-albumin preparations, among which the author mentions favorably argonin, protargol, hegonon, and argentum proteinicum (Heyden). (2) Cautious transition to antiseptic and mildly astringent treatment, in order to destroy any remaining gonococci and to moderate gently the inflammatory process; silver nitrate, ichtargan, albargin, and argentamin being named as among the proper agents. (3) Completion of the cure by purely astringent (not antiseptic) remedies, these including zinc sulphate, alum, bismuth subnitrate, and the like.

Internal medication with the recognized antigonorrheics (the balsams, etc.) the author considers purely in the light of supportive treatment, sole reliance upon the same constituting a grave mistake.

The fact that the silver-therapy as outlined occasionally miscarries the author seeks to explain by assuming an individual resistance to the preparation of the particular gonococcus-brood attacked (either specific, or perhaps acquired during the treatment), so that the cause of failure would be a biologic one, and not pathologic-anatomic. He is inclined to doubt the value of the thermotherapy that has been suggested, that is, to induce thermopenetration by means of the thermophore.

While the author says nothing about the use of bacterial vaccination, the value of this expedient in gonorrhea should not be lost sight of. In intractable cases and in the complications the gonococcus bacterins should practically always be resorted to.

HEXAMETHYLENAMINE IN SURGERY

A. C. Burnham (*Med. Record*, July 5, 1913, p. 15) is of the opinion that hexamethylenamine may, and does, break down in alkaline solution, especially when there is stasis of the solution and it is at body temperature, In this belief, he takes issue with some of those who in recent years have asserted that this remedy is effective only in an acid medium.

"In chronic cystitis," Burnham declares, "especially when this is due to an enlarged prostate, it is of great value." He has seen the drug given under such conditions for a period of several years without any ill effects. He would not expect very satisfactory results in tuberculosis of the bladder, but personally has never seen it used in this condition.

Before catheterizing, before all instrumentation, before every operation, following every wound of any part of the genitourinary tract, hexamethylenamine should be given in full doses. From about four to six hours before cystoscopy, 10 grains of the drug should be given, and again 7 ½ grains one hour before beginning instrumentation. Thereafter, for 48 hours, give 7 ½ grains of it every four hours.

Dr. Burnham quotes the experimental work of Crowe, to show the value of this drug in meningitis. Its prophylactic value is especially marked. Crowe reported 35 cases of compound fracture of the skull in which hexamethylenamine was given as a routine, without a single case of meningitis following. When the disease has developed, however, its value probably will be less marked.

Closely related to its action in the cerebrospinal fluid, is its application to otologic practice in the prevention and treatment of mastoiditis and disease of the middle ear. It has also been recommended in rhinitis and in infection of the gall-bladder, as also in acute cholecystitis. The presence of the drug has always been demonstrable in the sputum, in the saliva, in the blister of zoster, and in other secretions.

The dosage varies being from 20 to 40 grains daily up to 200 to 300 grains. It should always

be given well diluted, about one glass of fluid being administered with every 2 grains.

THE PRESENT STATUS OF FRIEDMANN'S CONSUMPTION CURE

In view of the popular interest in the Friedmann method of the treatment of tuberculosis, the following statement from the Berlin correspondent of *The British Medical Journal*, is presented without comment:

"The report by Westenhofer, prosector at the Pathological Institute of the Charité Hospital, made to the last meeting of the Berlin Medical Society, of his postmortem findings in a case that had died of hemoptysis after a course of injections by Friedmann, produced a considerable sensation. There were numerous pulmonary cavities and a generalized miliary tuberculosis; but this is not the worst, for in the gluteal region, at the site of the infection, and in the musculature, where tuberculosis deposits are exceedingly rare, there was a large focus containing giant cell-systems and tubercle-bacilli which could not be definitely classed either among the human or cold-blooded varieties.

"In the course of his remarks the speaker regretted that Dr. Friedmann had not as yet fulfilled his promise to the society to publish his culture methods in detail—a course, which he maintained, could only damage the high esteem in which German scientific research was held abroad.

"He was followed by Prof. Schwalbe, who drew the society's attention to an official report of the Health Department at Washington, in which it was definitely stated that the patients treated by Friedmann in America had not been cured.

"The well-known bacteriologist Frau Dr. Rabinowitsch showed the society a pure culture of Friedmann's turtle tubercle-bacillus recently sent to her from America. It had been obtained from an abscess produced by inoculation in a female patient in Rhode Island. Besides the tubercle bacillus, there was cultivated from it a nonacidfast bacterium, which might possibly be designed to act in combination with the other. In her opinion, the first-named very closely resembled a bacillus isolated from the carp, by Dubard, fifteen years ago.

"Friedmann's bacillus grows best at room-temperature and can be subcultivated on all the usual media, while microscopically and by staining methods it cannot be differentiated from the recognized 'reptilian' tubercle-bacillus.

"She reminded her hearers that Küster, Mœller, and Edwin Klebs had fruitlessly tried to immunize animals some years ago with such bacilli, and mentioned that she herself had also failed. Piorkowski, a former assistant of Friedmann's, who had formerly cultivated turtle tubercle-bacilli for him, has placed living cultures of this bacillus at the service of his colleagues in Berlin and elsewhere. At this meeting, he stated that he had received favorable reports from certain sources, while other authorities had been unable to send him any positive observations.

"Friedmann found his only firm supporter in the person of Dr. Schleich, of local anesthesia fame, who from the beginning has publicly stated his belief both in the man and the method. Schleich stated again that most amazing results had been obtained by Friedmann, and called upon the Society to appoint a commission from among its members to examine into, and report upon, his alleged cures."

HOW SHALL WE DEAL WITH THE TYPHOID-CARRIER?

The evidence is accumulating that the most fertile source for the dissemination of typhoid fever is the human "carrier." According to Houston (quoted, *Brit. Med. Jour.*, July 12, 1913, p. 78), the proportion of carriers in the ordinary population is about three or four per one thousand. Dr. Houston believes that, if the immediate cause of what we recognized as water-epidemics in the past should be precisely ascertained, we would find that mostly there had been accidental infection of the water supply by such carriers.

The problem is, How shall we deal with them—or, rather, with her; since Schottmueller (*Jahrskurse f. Aerztliche Fortbildung*, Oct., 1912), has shown that typhoid-carriers are nearly all of the female sex.

There are those who advocate recourse to a surgical expedient; for instance, Dehler (*Muench. Med. Woch.*, April 16, 1912) advocates cholecystotomy, with prolonged drainage, or, better still, entire removal of the gall-bladder, this being the seat of growth of the typhoid-bacteria in most of these individuals; Dehler claiming that this is the only effieient method of effecting a cure.

On the other hand, some experimental work has been done with typhoid bacterins. At the meeting of the Congress on Hygiene and Demography in Washington last fall, A. C. Abbott, of Philadelphia, stated that his assistant was carrying out experiments in

this direction, and was getting encouraging results.

Hexamethylenamine-tetramine is a remedy suggested for the treatment of carriers, since this is known to be an efficient sterilizer of the urinary tract, through which many of the bacteria are excreted. This remedy is also a quite efficient intestinal antiseptic, and it is possible that it may penetrate even to the gall-bladder. Certainly it is worthy of a trial. There is a field here deserving of careful study.

CHRONIC AMEBIC DYSENTERY

A. Chauffard, in *The Presse Médicale* for May 14, (Cf. *N. Y. Med. Jour.*) assures his readers that the possibility of amebic dysentery being present in temperate climates should constantly be kept in mind, as not infrequently cases of this character do occur. He reports his experiences with a patient who had amebic dysentery during his boyhood in Turkey, and eighteen years later in France there was a recurrence of his old trouble, apparently brought on by an ordinary attack of simple diarrhea.

The amebic character of the disease being promptly recognized, emetine hydrocloride was administered, to the amount of 5 grains in a week. The temperature promptly fell and the number of stools decreased, until on the fifth day there was no movement at all. The patient promptly regained his former health.

ANTITYPHOID VACCINATION IN THE FRENCH ARMY

From *La Province Médicale* (April 26, 1913, p. 185), we learn that during the time antityphoid vaccination has been practiced in the French Army (since January, 1912) 62,786 vaccinations have been made among the troops at home and in Algeria and Morocco. This prophylactic method has been shown to be free from harm, while it insures remarkable protection to the soldiers, who have submitted themselves voluntarily to the treatment.

Statistics show that in France no case of typhoid fever has been observed among those thus vaccinated, who on December 31, 1912 numbered 37,140. In Algeria-Tunis, among 13,290 vaccinated up to the same time, only one case of typhoid fever was observed, this being in a soldier coming from Morocco. In eastern and western Morocco, the results are shown in the statistics following below, which also include cases in which after laboratory verification, a large proportion do not appear to be justly classified as typhoid—representing, rather, cases of paratyphoid fever, mild gastric disturbances, and diverse pyrexias.

The morbidity and the mortality as to typhoid fever in eastern Morocco were: Vaccinated: Morbidity, 0; mortality, 0; not vaccinated: morbidity, 38.23 per 1000; mortality, 5.51 per 1000. In western Morocco the morbidity among the vaccinated was 2.96 per 1000; the mortality, 0.09 per 1000. Among the unvaccinated, the morbidity was: 168.75 per 1000, the mortality 21.29 per 1000.

Knowing the average morbidity and mortality of typhoid fever in the metropolis, Algeria-Tunis, and Morocco, one may estimate that antityphoid vaccination has saved France, among the 62,786 soldiers vaccinated, 2101 attacks of typhoid fever and 266 deaths during the single year of 1912.

THE VALUE OF EMETINE IN LIVER ABSCESS

S. Mallannah, in *The British Medical Journal* (June 7, p. 1207), tells of a severe case of amebic dysentery occurring in a woman of 40, an alcoholic. The trouble began about a year ago, and since that time the patient had suffered from diarrhea. About four months ago she began having chills and fever and soon after, on three different occasions, a hepatic abscess was emptied by aspiration. However, the pus continued to collect, and opening of the abscess was suggested; but on account of her weakness the patient declined to submit to the operation.

On March 13 Dr. Mallannah found the patient extremely debilitated, emaciated, and with marked enlargement of the liver. She complained of severe throbbing in the liver and was unable to lie on the right side. She was having about five liquid stools daily, was unable to sit up or move in bed, suffered from nausea, and was unable to take food.

Emetine in ¼-grain doses now was prescribed, to be given, in solution, thrice daily. Within one week the patient's temperature came down to normal, and remained thus; the diarrhea stopped and the pain in the hepatic region diminished. The swelling gradually began to grow less, and in a month the liver had returned to its normal size. Appetite returned, the anemia disappeared, the patient began to gain weight, and soon was able to be about. Altogether, the patient received 21 grains of emetine.

Dr. Mallannah publishes this case, he affirms, to emphasize two facts: first, that emetine is effective in amebic infection even when suppuration already has taken place, and, second, that it acts efficiently when given by the mouth.

EMETINE IN DYSENTERY

At the meeting of the Societé Médicale des Hôpitaux (*Gaz. d. Hopit.*, May 20, 1913 p. 906), Chauffard reported the case of a young woman of 28 years who contracted, in Dahomey, a disease characterized by paroxysms of diarrhea that did not seem dysenteric with glary stools, but, no pain or tenesmus. At the end of two months she returned to France, nearly cured.

On May 5, 1912, the woman was taken with violent pains in the right side of the hypochondrium, these radiating toward the shoulder. Her temperature was found to be 39° C., and the general condition bad. The following day she had violent attacks of cough, experienced a tearing sensation, and vomited greenish-looking pus. During the month of June she suffered from slight hemoptysis, this causing a fear of pulmonary tuberculosis; but there were no other signs, and later the hemoptysis seemed to be cured. February 15, 1913, a new attack of vomiting occurred, bringing up chocolate-colored pus; and for a month bloody pus was expectorated.

The patient entered the hospital on April 14. Signs of abscess of the liver were evidenced and dysenteric abscess was diagnosed. With the aid of an aspirator, 650 Cc. of yellowish liquid was withdrawn, and this gave the Gmelin reaction also. The presence of amebae also was established. By way of treatment, the patient received 4 grains of emetine, which large dose was well tolerated, and the temperature went down as a consequence.

Dr. Chauffard thinks that there had occurred a successive opening into the bronchi of two dysenteric abscesses. At the present time there exist a granulating, caseating abscess, the bile having exerted a sterilizing action. These factors appear to support the opinion expressed by Dopter, that the action of emetine as solely to influence deleteriously the pathogenic amebae.

RHEUMATOID ARTHRITIS: NATURE AND TREATMENT

The current English journals contain numerous articles upon rheumatoid arthritis. There seem to be two fashionable schools, at the present time, regarding its nature and treatment. The first, represented by Sir James Barr, presents the theory that these patients are suffering from acidosis, with associated extraction of the lime salts, to which condition we must ascribe the thinning of the bones and erosion of the cartilages, effusion into the joints, swelling of the fibrous tissue, wasting and weakness of the muscles, and neuralgia and neuritis.

The second school of clinicians looks upon rheumatoid arthritis as distinctly an effect of autointoxication, the toxin being produced as the result of bacterial infection at some point more or less remote. Many cases are ascribed to pyorrhœa alveolaris; others to gonorrheal infection; others to leucorrhea; still others, to absorption from enlarged, chronically inflammed tonsils. Those who hold to the second theory generally advocate the use of autogenous bacterins, and the remedies of this class have certainly been employed in many cases with remarkable results.

To an American looking on at a safe distance, there seems no necessary incompatibility between these two theories. The calcium starvation and the lowered metabolism may present just the conditions favorable for the malign influence of the toxemia. The ideal treatment would seem to combine local treatment to the focus of infection, general reconstruction with lime salts, and proper (alkaline) agents to correct the acidemia, in connection with suitable autogenous bacterins. Here is a field for some fine clinical work in which we hope the readers of CLINICAL MEDICINE will become interested.

ORAL SEPSIS AND GENERAL TOXEMIA

The British journals are devoting considerable attention to the relation subsisting between pyorrhœa alveolaris and the occurrence of disease in other portions of the body. For instance, it is now believed that many cases of arthritis deformans originate from septic states in the mouth, and W. Hale White (*Lancet*, May 24, p. 1440) makes the statement that some diseases of the eye may be owing to pyorrhœa.

In the treatment of diseases of this kind, therefore, it is of importance to give proper attention to the oral conditions. Diseased teeth and gums should receive proper attention at the hands of the dentist; while, in addition, good results are claimed from the administration of autogenous bacterins. It

is even asserted that in some cases victims of rheumatoid arthritis have been cured by bacterins prepared from oral cultures.

Discussing the subject of oral sepsis in *The British Medical Journal* for June 14, Arthur Mills divides into six groups those diseases in which septic conditions of the mouth act as an etiologic factor, these groups including, respectively, (1) cases of indigestion associated with anemia, (2) disorders of menstruation, (3) vomiting in pregnancy, (4) the climacteric, (5) localized suppuration, (6) arthritis. A number of interesting examples are cited in support of this view. In a large majority of these cases of oral sepsis, he points out, pallor of the skin and mucous membranes has been well marked.

Dr. White concludes that a septic oral cavity exerts a far-reaching influence upon general health; that the condition is a common cause of disorders of the stomach and of the different forms of arthritis; that at the critical periods of life of the individual, as, for example, at puberty, during pregnancy, at the climacteric, or in the course of chronic disease, it may be the all-important factor in the case.

In the same number of *The British Medical Journal* (June 14), Basil Hughes completes the indictment against septic conditions of the mouth (pyorrhœa alveolaris in particular) as regards its etiologic importance in rheumatoid arthritis. Aside from local treatment, Hughes also emphasizes the value of autogenous vaccines.

In order to get a suitable culture-medium, he says, the mouth should be washed thoroughly and the teeth scrubbed on two or three consecutive days with a normal saline solution free from antiseptics, in order to get rid of extraneous matter from the teeth. At the end of three days a small quantity of pus is squeezed up from the gum, a slide is taken, and agar tubes are inoculated.

CHOLELITHIASIS: ETIOLOGY, DIAGNOSIS, TREATMENT

In a paper read before the Royal Society of Medicine, W. Bain (*Brit. Med. Jour.*, Dec. 20, 1912, through *Muench. Med. Woch.*, 1913, No. 15) argues that the largely accepted theory of the bacillary origin of gallstones does not apply invariably, pointing, for instance to typhoid fever, which despite the enormous invasion does not engender the trouble. Among some of the other important contributing factors, he mentions biliary stagnation, digestive disturbances, and mental depression. Furthermore, Dr. Bain is strongly of the opinion that medicinal treatment often may prove curative if the condition is recognized sufficiently early. And this should be the aim of the doctor.

As an aid to prompt diagnosis, the author —with whom several of the members present agreed—supplies this general clinical picture that should lead to a closer study: dyspepsia and concomitant intestinal gases, acid eructations, sensation of pressure and weight over the stomach, coated tongue, pain in the epigastrium after food ingestion together with idiosyncrasy against certain kinds, lassitude and somnolency, constant sensation of pressure in the right hypochondrium; besides—and of great diagnostic value, and never absent—sensitiveness to digital pressure in the region of the gall-bladder.

Treatment, naturally, must be directed against any gastrointestinal faults discovered, especially seeking to improve the digestion, inasmuch as it is now held that, ordinarily under aseptic conditions, concrements in the gall-bladder are disintegrated by healthy bile. Obviously, only after restoration of healthy digestion will further medication be in place; among these being the bile-salts and hexamethylenamine.

In this connection, one of the critics spoke highly of the laxative mineral waters. That our present irrational mode of living and eating is the real cause of this trouble, is demonstrated, he thinks, by the fact that biliary concretions are of extreme rarity in the animal world.

Dr. Bain does not speak of sodium succinate, which so many American physicians have found clinically curative of gallstone-disease. Best results are obtained when it is employed in conjunction with boldine and the bile-salts, the bowels being kept free with laxative salines.

HAIRINESS: ITS TREATMENT

We have eight methods at our disposal for the removal of superfluous hair, according to Douglas Freshwater (*Practitioner*, May, p. 825), these being respectively, (1) plucking, (2) shaving, cutting, singeing, (3) x-ray, (4) depilatories, (5) hydrogen dioxide, (6) pumice-stone, (7) Kromeyer's method, (8) electrolysis.

As regards the first two, they have little to recommend them to the physician. The x-ray is effective in producing permanent epilation over an area, but numerous exposures are required, with danger of causing

dermatitis, a parchment-like condition of the skin, pigmentation, and telangiectases.

Depilatories are largely employed, but they do not destroy the hair-root, and therefore can not be depended upon for permanent removal of the hair. Among the substances formerly most utilized for depilatory purposes, the following may be named: Orpiment (sulphuret of arsenic, or yellow arsenic), but this nowadays is little used. Calcium sulphide and anhydrous barium sulphide also are used, and are less intense in their action than is sodium sulphide. Redwood's paste consists of a concentrated solution of barium sulphide, with starch enough to make a paste. Duhring's depilatory, which is one of the best, consists of barium sulphide, 3 drams; powdered zinc oxide, 1 ounce; starch, 1 ounce. At the time of its application enough water is added to make a paste, which then is spread over the hairy part and permitted to remain two or three minutes, when a sensation of heat or burning is felt. It is then quickly removed by scraping with a smooth wooden spatula and the thin skin thoroughly washed with warm water. When the skin is dry, it should be freely enointed with cold-cream—prefeably the old-style, official, variety.

Hydrogen dioxide is used as a bleach where the hair is perceptible but too fine to permit of its removal by electrolysis. Besides its bleaching properties, it has a destructive action on the fine hairs, which after a time become brittle and break off, thus producing a still further improvement in appearance. It also retards the growth of the hair, having its vitality impaired, so that sometimes it stops growing altogether.

Hydrogen-dioxide solution is a harmless remedy for home use, and is of special value to brunette women afflicted with fine dark down on their upper lips. It may be employed in the form of a cream for night use or be dabbed on while one is dressing in the morning. After a few applications the hair is bleached white, after which an occasional use is sufficient.

An effective peroxide cream consists of hydrogen dioxide (perhydrol), 2½ drams, and lanolin, 6 drams. This fatty mixture is less rapid in its action than the plain dioxide, but is not so troublesome to apply. Before applying hydrogen-dioxide fluids, greasy substances should be removed from the hair with a mixture of ether and alcohol. Sodium-peroxide soaps are available, and these also are of value for bleaching purposes.

Pumice-stone sometimes is useful. In the cases of hair on the chin or lip, the latter first should be shaved closely. Then, selecting a piece of pumice-stone without rough edges, this is rubbed gently against the hirsute growth over the part to be treated; doing this for a few minutes twice daily, and avoiding too much severity. After this rubbing, a little cold-cream may be applied. After six months' daily use of the pumice-stone, a rest of a month is enjoined, in order to see the effect on the hair growth. Often the growth will be found to be weaker than previously, finer hairs replacing the thick pigmented growth. At the end of a year's treatment, sometimes the hair will be practically destroyed.

Kromeyer's method consists in punching out the hair-roots together with a little cylindrical piece of skin. The method is so severe that it has little to commend it.

Electrolysis undoubtedly is the best method for the complete removal of superfluous hairs when they are coarse, single, and sparsely distributed. The method is not suited to the removal of fine, downy growths or over extensive areas. It is tedious both to patient and operator, and not more than 20 or 30 hairs can be removed at one sitting. The constant current is the form utilized, the needle being attached to the negative pole. The region to be operated upon should first be thoroughly rubbed over with ether, to remove all grease and dust from the mouth of the hair-follicles. After each treatment, the patient should be instructed to bathe the face with hot water and anoint it with cold-cream, or to apply some antiseptic evaporating lotion.

NEW CURES FOR VENEREAL DISEASES

At the Scandinavian Dermatologic Congress held in Stockholm, Prof. Ehlers of Copenhagen, reported (*Pharm. Notisbl.—Sweden—through D. A. Apoth.-Zeit.*) the successful treatment of syphilis, in 211 cases, with injections of mercury-benzoate solutions. The remedy is administered intramuscularly, and, it is claimed, a single injection will effect a cure if the disease has not as yet entered the circulation.

At the same Congress, another physician, Dr. Jersilds, made known a new method of rapidly curing gonorrhea, destruction of the gonococcus being possible in six hours (?) where the infection is of less than seven days' standing. The treatment consists in the local employment of a copper salt by electrophoresis.

MISCELLANEOUS ARTICLES

Experiences with Bacterins

THE greatest discovery and most effective means for the conquest of disease, since the acquisition of diphtheria antitoxin, is that of the bacterins. That this class of preparations has come to stay there can be absolutely no doubt, as the following examples, taken from my practice, will amply testify. Each one of the cases to be discussed is known to one or more of my colleagues and, with the exception of the two acute cases, all the patients had been under the regular treatment for their respective conditions for two or more years. The bacterins employed were the well-known suspensions of sterilized pathogenic bacteria in normal-salt solution; they produce immunity by increasing the germ-destroying power of the blood.

Case 1. Mrs. J. S., came to me on March 31 last. She gave a previous history of gallstones, having passed great quantities at different times. For the previous years or longer she had been having chills, fever and sweating at irregular intervals of from a few days to two weeks. Her ill health dates from four years back. The sweat was followed by an urticarial rash on the skin. When this rash failed to appear after the sweat, the chill would reappear again and again, until at last the sweat was followed by urticaria; then relief until the next paroxysm. Physical examination showed nothing unusual. The diagnosis was chronic catarrhal angiocholitis.

By way of treatment, one dose of bacterins was given hypodermically every seven days, the last one being administered on May 20. After the first dose the patient had one very faint chill that lasted a few moments. Otherwise she has been free from the symptoms from the first day of the treatment, March 31, up to the present. Some medicine was given internally, but no reliance was placed upon that to effect a cure. The vaccine in this case contained streptococci, pneumococci, and colon bacilli.

Case No. 2. Mr. M., age 22. He was a perfect specimen of physical manhood but for a chronic gonorrheal cystitis, as evidenced by a dull aching over the pubic region, irritability of the bladder, and cloudy urine that contained shreds; besides vague and migratory pains over the various joints, back and hips. This patient told of having contracted gonorrhea about four years ago, which had resulted in stricture, the treatment for which was divulsion.

This patient received 9 doses of bacterins containing gonococci and staphylococci, at six days' interval, followed by complete relief of all the symptoms.

Case 3. At the present time I have under my care a woman afflicted with gonorrhea of four years' standing. I saw her for the first time March 19. She has received 12 or 13 doses of bacterins containing gonococci, staphylococci, pneumococci, streptococci, and colon bacilli. (There was a mixed infection.) The discharge from the vagina has nearly ceased, as have also the soreness and the inflammation which accompanied it. I have neglected to treat by local means an accompanying urethritis, but have begun doing so, and with beneficial results.

Case 4. Mr. Y., about 18 years old, was seen at my office March 13. There were present a nasopharyngeal catarrh associated with profuse watery discharge from the nose, besides granular elevations on the posterior wall of the pharynx and swelling of the tonsils. This patient (like the preceding) had been under treatment, locally and constitutionally, and suffered many things from many doctors. He received 9 doses of bacterins in all, at six days' interval, followed by a cessation of the discharge and an apparent return to normal of the pharyngeal mucous membrane.

Case 5. J. H., middle-aged, applied to me for treatment for a carbuncle on his neck of four weeks' standing. A dose of bacterin containing streptococci and both varieties of staphylococci was administered hypodermically. Five days later the patient returned for a second injection. The pain and soreness were gone and the tumor was reduced

to half the original size. After the second dose, total disappearance of the tumor occurred within five days.

Case 6. Mr. B., aged 15 years, complained of soreness and stiffness in the right knee. Previous to this he had had tonsillitis. His temperature was 102°F. Forty-eight hours after the injection of streptococcic bacterin all signs of inflammation disappeared and the patient was able to be around and play. Two weeks later, the patient had a relapse, the ankle-joint and that of the large toe being swollen. The bacterin treatment was resumed, one dose given weekly. (Eight doses were given in all.) The patient is improving in general health and on the way of recovery.

Case 7. Mr. C., aged 15, ill with lobar pneumonia. A bacterin containing streptococci and pneumococci was given hypodermically. Great improvement in respiration, circulation, temperature, and so on, was apparent in twenty-four hours. A second dose was given on the third day. On the fifth day the crisis set in and the patient had a violent attack, respiration being at the rate of 70 times a minute, besides other alarming symptoms. He recovered.

In this case, I consider the second dose of the bacterin responsible for the early and violent crisis, through an overstimulation of the immunity-producing apparatus of the organism. The lesson to be drawn from this is, never to repeat a dose of bacterin too soon after its administration, unless the desired results fail to appear—namely, an observable alleviation of the symptoms. I am not very positive in this opinion, being based, as it is, on only a single experience, while it is contrary to the teaching of those who have had a much more extensive experience in the use of bacterins.

I could proceed, enumerating other cases treated with these agents, such as bronchopneumonia, suppurative otitis media, infected wounds, boils, parasitic eczema, puerperal fever, and so forth; however, I have elected to limit myself to those conditions in which the results were truly remarkable and could have been secured by no other form of known medication.

I have refrained from mentioning the dosage, inasmuch as this information really is immaterial and may easily be obtained by looking over the literature on the subject.

MICHAEL SHADID.

Carter, Okla.

[Bacterins are often of extreme value, and we hope others will give their experience with them. But the best results are obtained by associating *all* indicated remedies.—ED.]

HEREDITY AND TUBERCULOSIS

In the July issue of CLINICAL MEDICINE, there appeared a very interesting account of a recent lecture on "Tuberculosis, Heredity, and Environment" by Professor Karl Pearson, Galton Professor of Eugenics at the University of London. Since the general tenor of this lecture is somewhat pessimistic and since Dr. Pearson's conclusions are rather unfavorable to the sanatorium treatment of tuberculosis, I take the liberty of discussing at least some of his remarks. I think it only fair to preface my remarks by pointing out that Professor Pearson is not a physician and for this reason his conclusions concerning the etiology of tuberculosis will bear elucidation from a medical viewpoint.

To begin with, I want to make it clear that we must differentiate strictly between tuberculosis, the infectious disease caused by the pathogenic action of the tubercle bacillus and tuberculous phthisis, or consumption, that is, the destructive stage of tuberculosis, into the causation of which other factors besides the tubercle bacillus enter.

There can be no question of a predisposition to tubercle infection, as little as there can be a question of a predisposition to getting wet in the rain. The only effective prevention would be the avoidance of exposure either to infection or to rain; but while the latter may be easy, the former is not. In fact, it is now well known that practically everybody is exposed to infection by the tubercle bacillus and that practically everybody yields to it, at least to the extent of some tubercle being formed. But now the generality of things ends and the question of predisposition arises.

Those persons who are not predisposed develop protective substances in their blood-serum which neutralize the toxins formed by the tubercle bacillus and kill the latter. In those who are predisposed or who do not have a sufficient resistance, a certain degree of tubercle formation will occur, which may be arrested after a time, and for a time.

But, as certain further predisposing or weakening factors enter into play, such as exhaustion, weakening diseases, especially influenza, etc., the tuberculous process will be reactivated and will advance a little further, until finally no more arrestment is possible, the tuberculous process will become

progressive and consumption will declare itself and will eventually lead to death.

The exposure to tuberculous infection is practically universal in civilized countries; the development of consumption out of a tuberculous focus depends upon a predisposition to the growth and multiplication of the tubercle bacillus, and upon a weakness of cell-life, by virtue of which the tubercle bacillus is enabled to exert its harmful action upon the organism.

Pearson is mistaken when he asserts that in actual practice the hereditary factor is almost universally ignored. This was true a number of years ago during the first enthusiastic rise of the bacteriological school, and even then only to a certain extent. For, while the strict bacteriologists attributed to infection almost the only causal importance in the genesis of tuberculosis, the clinician, and especially the general practitioner, never could be convinced that everything depended solely upon the exposure to infection. The importance of the soil was insisted upon, from the beginning, by many authors, and it has recently resumed its proper place as an essential factor in phthisiogenesis.

Discussing the two pedigrees collected by Klebs, among the members of which only 12.5 percent of the mates of consumptives became tuberculous, while 79 percent of the offspring acquired the disease, Pearson argues that, "*if the phthisis in the children be due in the first place to infection from parents or to a common environment, we should anticipate that more than one-eighth of the mates of phthisical individuals would themselves be phthisical.*"

This fallacy has been advanced and refuted these many years ago. The exposure to infection being equal, those who are least resistant to it will naturally be the ones to show the effect of the infection. Infection takes place in all who are exposed; but tuberculous disease occurs only in the relatively nonresistant. Experience shows that children are far less resistant than adults, and they are, therefore, the first to yield to the family exposure. Furthermore, it is now acknowledged that the beginnings of adult-tuberculosis, respectively adult-phthisis, are laid in childhood, and that it develops upon the basis of a tuberculous process the infection for which was acquired in infancy or early childhood and which was held in abeyance until adolescence.

Those remaining free from tuberculosis upon having reached the years of puberty have escaped because of a congenital or acquired resistance or immunity, and it is easy to see why so many more children than mates of tuberculous persons should have become tuberculous; they did not possess such a resistance. The same reasoning explains why there is little use in living "*in widely separated homes and under diverse conditions, flying from the family-curse*" after the family infection has occurred.

Finally it becomes apparent why "*the father is twice as dangerous to the child, if the source be infection, as the husband to the wife.*"

Pearson's conclusion that "*during the years of tubercle bacillus, of sanatoria, and of the fight against tuberculosis the rate of fall in the death rate from phthisis, instead of being accelerated, has been retarded*" cannot be accepted at its face value. I am fully conscious that in the matter of statistics I am invading Pearson's stronghold and that I cannot follow him in this field. However, it has been shown repeatedly in the course of the last decade that the death rate from phthisis has declined more in certain countries since 1882 than in the thirty years prior to that date.

This appears, for instance, from a recent communication on the death rate from phthisis in Prussia, by Professor Fraenkel, to the Berlin Medical Society; it is also suggested by the figures presented, for England and Wales, in the "Report on Sanatoria for Consumption" (by H. T. Bulstrode. London, 1908). In the latter report, I find for the quinquennium 1866 to 70 the phthisis mortality to have been 24.4 per 10,000 living; and in 1881 to 85 it was 18.3. In the quinquennium 1891 to 95, the death rate had fallen to 14.5, and in 1901 to 05, to 12.1

I know quite well that this decrease in the phthisis mortality in England and Wales began more than thirty years before the discovery of the tubercle bacillus, and I am far from attributing it exclusively to the lessons learned from bacteriological research, however important they may have been. Nevertheless I believe that the decline in the death rate has been more rapid since 1882 than it was before that date, at least in some countries or portions of countries.

While Professor Pearson's regret is justified to a certain extent, that "*hardly a single sanatorium in this country* (In England.—Author) *publishes a report from which it is possible to extract information of scientific value as to their efficiency*; and that *this is equally true of other countries*," I submit that many of the sanatorium reports, both here and abroad, contain data that show very clearly the relative efficiency of the modes of treatment followed in those institutions.

At the risk of being accused of speaking *pro domo*, I will mention the biannual reports from the Winyah Sanatorium, in which the results of treatment are discussed at considerable detail. In the report published in 1907, for instance, an inquiry was published according to the results of which 400 out of 602 former patients traced had been dismissed from the institution for periods of from two to ten years, as apparently cured, and 320, or 80 percent of these, had continued without a relapse. Further, 202, on their discharge, had been reported as improved; and 94, or 46.5 percent of these, had continued without a relapse.

The same report contains a comparative tabulation of different groups of patients accordingly as they were treated, since 1888, with or without the aid of specific remedies in addition to the customary sanatorium methods; and the greater efficiency of specific treatment, more particularly of remedies representing the entire body-substances of the tubercle bacillus in solution, is shown very clearly While, unfortunately, not many sanatorium reports do more than give an indication of the number of patients admitted and discharged during the preceding year, there is a number of them in which the working of sanatorium treatment, in its comparative, its immediate, and its remote phases is recorded faithfully.

The foregoing figures also show the injustice of Professor Pearson's doubt that "*sanatoria have in any way prolonged the lives of consumptives in a marked or substantial manner.*" While it is questionable, from a eugenic viewpoint whether such a prolongation of life (taking the term consumption as meaning the terminal, or destructive, stage of tuberculosis, and designating a stage of the disease in which it is all but incurable) is a thing greatly to be desired, it may be pointed out justly that the majority of the incipient cases which, according to Pearson, "*swell the percentage of cured cases and which, in pre-sanatorium days, and no less now, recovered spontaneously,*" are the very ones that would *not* have recovered spontaneously; because a clinically "incipient" case of tuberculosis is in reality one of incipient consumption. These "incipient" cases, then, were the candidates for later progressive consumption and their "recovery," whether transient or permanent, meant an advance in results.

In the present crusade against tuberculosis, which is *de facto* a crusade against tuberculous phthisis, the sanatoria very justly and properly take up the early-stage cases and attempt to cause their arrestment, respectively their cure. They do more. In teaching the patients the laws of correct living and how to protect others from exposure to infection, the sanatoria mediately lessen the number of future cases to an extent which cannot of course, be estimated, but which is nevertheless, not inconsiderable.

Supposing Pearson were right when he says, further, that sanatorium treatment, dispensaries, tuberculin, etc., are but experiments—what of it? Has not the experiment, even the clinical experiment, a legitimate place, and are we not everywhere limited to doing the best we can do? There is not a single line of human endeavor in which our knowledge is a rounded whole, an absolute definite entity. In all different lines, we are obliged to learn from experience, that is, to experiment. The important point is, that we should always obey the *primum non nocere* in our experimentation.

Moreover, I cannot see that Professor Pearson's plan of discouraging the perpetuation of the stocks of consumptives is any more hopeful however correct it may be in principle. How soon can consumptives, who have been called the most salacious and amative of people, be taught that they must refrain, for the good of humanity, from begetting children? "Damn humanity!" will be their reply.

Not but what they are wrong and Pearson is right. The stock of consumptives is, indeed, undesirable from the eugenic viewpoint and should be discouraged. But I maintain that, with all deference to the excellent work done in the Galton Eugenic Laboratories, the present mode of attacking the tuberculosis-problem is condemned unjustly and that it has its proper place in the effective crusade against the disease.

While I am fully in sympathy with Professor Pearson's wish to "*encourage health parentage*" and to receive the records of "*observations in such a manner that the trained mind can ultimately measure their bearing on human welfare,*" I submit that these objects have no present expectation of being attained, while the tuberculosis-problems are very present and very real, indeed; and they must be met and dealt with.

A far better way, for the present, or in the meantime, and one that promises more immediate results, would be, to secure the general vaccination or prophylactic immunization of all children and of all persons who are in the least likely to come in contac· with consumptives; that is, at present practically

everybody. This vaccination against tuberculosis has been proved o be quite feasible and to be just as efficient as is the vaccination against smallpox or against typhoid fever. If, let us say, the entire population of Chicago were vaccinated on a given date and, if, therefore, from then on no new cases of tuberculosis would develop and, consequently, no new cases of consumption, except those imported from outside, the tuberculosis problem would be brought in short order very near to its solution and the disease would die out for want of sustenance within a time measurable by the span of a human life. But that is another story.

H. J. ACHARD.

Asheville, N. C.

HOT-WEATHER AILMENTS

You want our experiences with hot-weather ailments. Here are a few from my own practice, although I have nothing new to offer.

This is my treatment of *intertrigo:* Cleanliness, a daily bath, the free use of borated-talcum powder serve to prevent the trouble; while, for a cure, I clean the affected parts with olive oil (avoiding soap) and then apply resinol ointment.

Urticaria.—A good clean-out with calomel and podophyllin, followed by a laxative saline; then the three combined sulphocarbolates (the intestinal-antiseptic tablet) and calcium lactate. For external use, the old wash of lead-water and opium.

Prickly heat.—A weak solution of copper sulphate, followed by a good dusting powder.

Mosquito bites.—Apply ammonia water or a two percent solution of potassium permanganate. Nothing beats coal-oil for preventing mosquitoes from biting.

Sunburn.—Dress with cold cream containing boric acid. In severe cases use the well-known carron oil, a mixture of equal parts of lime water and linseed-oil.

Diarrhea in babies.—Calomel, 1-10 grain, in combination with aromatics, for ten [hourly or half hourly] doses. If the stools are offensive then calomel and ipecac, 1-8 grain each, for twelve doses, after that the combined intestinal antiseptics; withdraw food, but give plenty of boiled water and thin barley-water. [Too much calomel?—ED.]

Infantile Colic.—Candler's calmative has given me splendid results.

Cholera morbus in adults.—Begin with calomel and podophyllin, 1-6 grain each, for six doses; then saline laxative; then intestinal antiseptic. If necessary to ease the distress, give a few doses of chlorodyne or Abbott's improved Dover's powder.

Indigestion.—Clean out thoroughly, then give quassia, together with small doses of Lloyd's bryonia and rhubarb; later, milk of magnesia, adding a small doses of carbolic acid. Bland diet.

EMIL SIMON.

St. Louis, Mo.

IRON AND CREOSOTE INTRAVENOUSLY

In the July number of CLINICAL MEDICINE (p. 594) I noticed an article about the use of iron subcutaneously and I was greatly surprised that nothing was said about its use intravenously. I have been using iron intravenously for three years, and consider this the only proper way of administering this drug.

Although I have given many hundreds of intravenous injections containing iron, I have never thus given the iron alone, but always in combination with calcium and creosote or other drugs. And, by the way, I want to say that this is the only best way to administer creosote—that is to say, to give it intravenously; though not necessarily with iron and calcium. I had entirely given up the use of creosote for tuberculosis until I learned that it could be employed to good advantage intravenously.

I treat a good many cases of tuberculosis by the intravenous method, and I am satisfied that very often I get good results that I could get by no other means. The solution of creosote is too irritating to be given subcutaneously, while a slight local phlebitis ensues after frequent intravenous injections; but this is avoided if a different vein is chosen each time. However, no permanent harm can follow, and the phlebitis is of no consequence when considering the vast benefits derived from the treatment.

By this treatment I have achieved results that were almost beyond belief, especially in respiratory diseases. I have used iron, calcium, creosote, several preparations of mercury, salicylic acid, salicylates, nuclein, magnesium, sodium, and potassium intravenously. The high temperatures of tuberculosis can better be controlled by intravenous treatment than in any other way.

I wish you would give us the experiences and formulas of some of the doctors who are having success with intravenous treatment.

H. O. WELLS.

Fort Wayne, Ind.

[For the good of the family, we hope Dr. Wells will tell us just how *he* prepares his hypodermic solutions, in what dosage he uses them, and give us case histories enough to throw light upon the reactions to be expected and the clinical results following.

Hypodermic and intravenous medication are growing in favor. There is no doubt that iron given subcutaneously is effective, but the pain and local reaction are often so great as to more than outweigh any advantages over internal medication. However, the hypodemic syringe is bound to be used more and more as a means of giving drugs of all kinds, especially when these drugs are concentrated and potent. Will not other readers of CLINICAL MEDICINE come forward with suggestions?—ED.]

IS THE ALOIN-ATROPINE COMBINATION IRRATIONAL?

Permit me to call your attention to the mistake of combining aloin and belladonna (or atropine) as now is well-nigh universal. I have referred to this matter in one of my papers printed in CLINICAL MEDICINE; nevertheless, you repeat the same error in your April editorial on "The Significance of Elimination," where you say: "Thus, if we take a combination of aloin to increase peristalsis, emetine to increase the intestinal secretions, atropine to relax the circular muscular fiber of the intestinal coats."

The atropine is added to prevent the griping caused by the tonic contraction of the muscular fiber, the latter action being the essential one of the aloin in causing peristalsis. The atropine, therefore, counteracts the aloin by relaxing muscular fiber. This combination is irrational.

I. L. NASCHER.

New York City, N. Y.

[We fear that Dr. Nascher's objection is based upon theoretic grounds mainly. In practice, the combination is one of our most effective ones, and (thanks to the atropine) it does not gripe, as does the aloin when given alone.—ED.]

AN IMPROMPTU THROAT-BRUSH, AND A FAT FEE

The other day an old negro "mammy" of the ante-bellum type came into my office looking terribly distressed and holding her hands to her throat. She affected difficult speech, but her "ole man" was along and I was made to understand she had a fishbone in her throat. I had no horse-hair throat-brush, but I took a wad of absorbent cotton about half as large as my fist, and clamped it with a long, slightly curved dressing-forceps. This I thrust down the yawning cavern and gave it a twist or two. She pushed me away, but I insisted on a second effort, which brought back the offending bone, with a little mucus and blood adhering.

"Lord a'massey! You got it, chile—you sure did, now! What's yer gwine ter cha'ge fer dat?" I explained that we doctors never did anything for less than a dollar and if she wanted to pay anything that was the charge.

"Lord bless yer, honey, if I had fifty dollars I'd sho gib it ter you—sho, I would. Good-by, honey. I 'members yer fer it. You sho ought ter git rich."

My fee was her sweet "'members fer it"—and out she went.

I don't know whether the improvised arrangement was superior to the regulation hair-brush, but I cite the occurrence simply as an instance of "nigger cunning and wit"; also, to show that doctors have to be resourceful sometimes and not depend wholly upon ready-made instruments.

F. B. CULLENS.

Ozark, Ala.

DRY STERILIZATION OF INSTRUMENTS

Formaldehyde gas is the best germicide known and when bacteria of any kind are exposed to or bathed in it they perish quickly.

Properly sterilized instruments, dressings, towels, and gowns are an absolute necessity to the surgeon, and, as the old methods of sterilizing by dry or moist heat necessitates cumbersome apparatus with more or less work and waste of time, I have long since discarded my steam-sterilizer for a more simple and effective method of sterilizing.

I have a metal and glass instrument case that is air-tight. In this I keep all instruments, towels, dressings, and gowns. I also keep in the case an open container (large-mouthed bottle will do) holding 2 or 3 ounces of paraformaldehyde.

This is a white powder, much stronger than the commercial (40 percent) formaldehyde, and gives off a dry gas, which does not attack metal as does the vapor of commercial formaldehyde.

If your instrument-case is relatively air-tight, the contents of the case are constantly bathed in the best antiseptic known, and if washed clean after each operation, instru-

ments may be put in your case and be ready for the next operation without further attention.

If the operation is to be some distance from the office, wrap the instruments securely in towels or an instrument-roll that have been kept in your case, and they will be ready for use when needed.

L. D. CLARK.

Akron, Ohio.

ECHINACEA AS AN APPLICATION TO WOUNDS. AUTOGENOUS VACCINE

Will it be amiss if at this time I relate the only personal experience I have had in the use of echinacea locally? It was called to my mind by the August editorial, "Clinical Evidence."

Three years ago, being asked to officiate at a dispensary clinic in one of our large cities, during the vacation of its regular clinician, I found a patient, a woman, with an infected vaccination the size of a silver dollar. She explained that four weeks before then she had returned to her home by sea voyage, and it was her misfortune to get on a boat in which was found a case of smallpox. The ship-physician immediately vaccinated the entire group of passengers and crew. His technic as she described it, was very crude and, may I say it, criminal. The same scalpel and the same vaccine-point were used on every patient, and never once were sterilized unless it had been done, once, before he began his task.

The resulting infection in this woman's case certainly showed that there was error somewhere. The dispensary case-record showed that she had been under treatment there ten days, and the course of treatment had consisted in cleansing with some mild antiseptic, followed by tincture of echinacea, and dressing saturated with the same applied at each visit. The record reported no improvement, and naturally I thought that the routine treatment had been followed long enough.

First cleansing the wound in a 1:2000 solution of bichloride of mercury, I then powdered the surface with a dusting powder, mainly aristol, and covered with aseptic gauze. Next day improvement was noted. At this time some unhealthy granulations were removed and the same dressing was repeated. The infection was routed and the wound healed rapidly.

I am not in a position to refute the value of echinacea locally, but that one experience has deterred me from experimenting with it.

In regard to another subject, autogenous vaccines, I wish to tell of a remarkable cure.

A young primipara whom I had confined developed a "beautiful" abscess of the left breast five weeks after delivery. Her home was filthy, all her environment was filthy, and for that reason I cannot take the blame upon myself for that abscess. I tried all the recommended drugs, regular and homeopathic. (I was only a "cub" doctor.) Then I fell back to surgery, and I labored three weeks unsuccessfully before I realized my big mistake. I had not made a culture of the pus. This was soon done and the infection found to be due to streptococcus.

An autogenous vaccine was made; but in the interval I injected a stock vaccine. Three days later the effect observed was very good and I injected a dose of the autogenous vaccine. My patient never returned for further treatment and, so, in a week, I looked her up and found a perfect cure, and the evidence of my surgery nearly eliminated.

WILLIAM RAE YOUNG.

Shelbyville, Mich.

SMALL THINGS FROM A DOCTOR'S PRACTICE

According to my own experience, oil of cassia (not oil of cinnamon) ranks with bichloride of mercury as a germicide, and in many cases the cassia oil should have the preference. With this oil I have cured, in some instances, barber's itch in less than thirty-six hours.

I can say the same also with regard to the poisonous effects of the poison-ivy. This vine often is mistaken for the Virginia-creeper, their leaves looking somewhat alike, but they may easily be distinguished, for the rhus has but three leaflets to the stock, while the Virginia-creeper has five.

When a person of scrofulous diathesis has his face thickly beaded with acne, or if anyone is troubled with boils or furuncles he may be cured with a course of sulphate of magnesium. Dissolve 10 drams of the magnesium sulphate in a quart of water, and of this solution let the patient take one tablespoonful each morning before breakfast. By the time seven or eight doses are taken, the system will be so saturated that it is difficult for some to continue its use. However perseverance will bring the desired results. The entire quart of solution should be consumed.

Dandruff can be effectually cured. Dissolve 1 ounce of sulphite of sodium in 28 ounces of water, then wet the scalp with this

solution every night long enough before retiring for the hair to dry. In the morning brush the dry salt out of the hair. Ladies need not wet all the hair but only the scalp. Use every night for two weeks, then twice a week for a month, when the dandruff will be gone, as a rule. J. G. TEMPLETON.

New Wilmington, Penn.

A VOTE FOR BLANCHARD, AND A GOOD WORD FOR COPPER ARSENITE

I notice in your August issue the request that we in the field are to pick the winners of the contest for the best article on summer-time ailments. I herewith comply.

Give the first prize to Blanchard, of Youngstown, Ohio. It is a pleasure to hear from a man who evidently knows what he is talking about and who has not culled all the archaic literature on the subject before writing his thesis.

His treatment and mine correspond almost exactly—so, of course, he *must* be right. One thing, he failed to do, however, was, to state the dosage of the copper arsenite as prescribed by him.

I find that other men apply this drug cautiously, and have little faith in it, anyway. Under these conditions, the results they get are practically *nil*; and that is to be expected.

I myself first used the copper arsenite for typhoid fever about four or five years ago, being guided by what scanty information I could obtain from the textbooks; but my results were not brilliant, to say the least. Later I began to use my head a little and started pushing the drug carefully until eventually I was giving three or four times the dose recommended by the various "authorities" and found that I was getting results that, in some cases, were little short of marvelous.

For typhoid fever, after a brisk purge with calomel followed by castor oil or magnesium sulphate, I begin with 1-50 grain copper arsenite, taken with plenty of water, and give it every three hours for a day and a night. Then, if the character of the movements is satisfactory and the temperature has not abated to 101 degrees in the evening, I increase the dose to 1-50 grain every two hours, and keep this up until either the fever drops to safe limits or the patient begins to show signs of poisoning. This latter contingency has never arisen with me so far—and I have given many thousand doses.

For a child of one year, I begin with 1-250 grain of copper arsenite every three hours, gradually increasing this to 1-100 grain every two hours, if necessary. Give lots of water—this for "summer-complaint," cholera infantum and any condition wherein we have to contend with the results of improper and abundant over-feeding, with the consequent intestinal indigestion and toxemias.

Dr. Blanchard's idea of restricting food is the keynote to the successful treatment of this class of disorders and should not be lost sight of if you expect to get these little folks well.

Strange as it may seem, it is almost impossible to starve these little ones to death, while it is extremely easy to kill them by injudicious feeding. To illustrate:

One day I was called to see a child of two years who apparently was in the throes of death. Its temperature was subnormal; pulseless; eyes, deep, sunken and staring; it was very restless, and intensely thirsty; tongue was dry and brown; it was moaning incessantly. The parents expected the child to die, and so did I, hardly thinking it could live through the night.

Nevertheless, I administered calomel, 1 grain in divided doses; also I cleaned out the colon with a high injection of normal salt solution, leaving in about a pint to be absorbed and to dilute the circulating toxins. I also gave orders to give castor oil, 2 teaspoonfuls, in the morning, if the child should be alive. Then, in addition, I left some copper-arsenite granules, to be given with plenty of water after the calomel had all been taken.

I told the mother that if she wanted to kill the child, she should keep right on giving a drink of milk every ten or fifteen minutes as she had been doing; if, on the other hand, she wanted its life saved, she must not give it *anything* but water and the medicine until I gave permission.

The child was somewhat improved the next morning, but still on the ragged edge of nowhere. The irrigation was repeated twice daily, each time leaving in a pint to dilute the blood toxins and to quench thirst. On the fifth day, I allowed a little oatmeal-gruel, made pretty thin, and, later, some albumen-water; then gradually worked I back to the full diet.

This was three years ago and the child is now (and was at the end of the summer) the picture of health. I mention this experience to show how long a child *can* be starved and, yet, get well. *Five days without a particle of food* in any form, except water, is almost too long for safety. Three days is now about my limit.

Again I say, give it to Blanchard, he has the right idea.

ALEXANDER BARCLAY.

Cloquet, Minn.

[Dr. Blanchard seems to be a favorite and those who have read his articles will understand why. The prizes will be announced next month. In the meantime, we hope that everyone having original or practically helpful ideas regarding *asthma* will send them in. Thus far we have received very few articles on that subject.

We are under obligation to Dr. Barclay for giving us the additional imformation and experience regarding copper arsenite. It is a valuable remedy, and was a great favorite with our old friend, Dr. Coleman, of Texas, in all the summer ailments of children. No doubt many failures with it were due to insufficient dosage. Copper is a powerful bactericidal agent, worthy of being ranked with the sulphocarbolates; indeed, Dr. Cummings, of New Jersey, gave us an exceedingly valuable article on copper sulphocarbolate some months ago, showing that it was effective in cholera, typhoid fever and other diseases of alimentary origin. The copper salts should be used more, both singly and in association with the sulphocarbolates and other intestinal antiseptics.

But as to the prizes—what say other readers of CLINICAL MEDICINE?—ED.]

A CORRECTION

A Philadelphia subscriber, Dr. A Sidney Reynolds, calls our attention to the fact that in the editorial "Semper Paratus," which appeared in the August number of CLINICAL MEDICINE, pages 633 to 634, nitirite of amyl apparently is made identical with glonoin. Though we hardly think any reader of CLINICAL MEDICINE will misinterpret that editorial, of course we want it understood that chemically the two remedies are entirely distinct; however, we all know that as regards physiologic action, they are almost identical, that of the nitrite of glyceryl (glonoin) being somewhat less evanescent.

MAGNESIUM-SULPHATE DRESSINGS FOR ERYSIPELAS

Our old friend and colleague Dr. W. T. Thackeray writes us from Fowlerton, Texas, that he doesn't like the local application which we advised for the treatment of erysipelas. In other words, he objects to iodine or any other escharotic being used.

Dr Thackeray claims that erysipelas yields readily (usually within twenty-four to thirty-six hours) to the application of compresses wet with a saturated solution of magnesium sulphate, together with the internal administration of magnesium-citrate solution in refrigerant doses. "I can assure you," he says, "that I look for results from this dressing with as much certainty as I should for an action of the bowels from a big dose of croton oil."

Although Thackeray doesn't say so, I am sure that he also believes in calcium sulphide, pilocarpine, and other indicated remedies, and I think he would advise the bacterin treatment in severe cases.

THE EXTERMINATION OF COCKROACHES

Locusts, June-bugs, and spiders may be nutritious, they may even be considered delicacies by superrefined gourmands; still, the ordinary mortal hardly would relish these insects as an article of diet. The cockroach, however, is detested by all halfway civilized people, whether as home-companion or as a casual constituent of an appetizing dish, and, hence, everybody wants to get rid of these house-pests; but efforts in this direction have been rather spasmodic and half-hearted. But now that investigators begin to accuse cockroaches of being, in all probability, carriers of disease, even of the cancer-germ, certainly more strenuous efforts should be put forward to rid our homes and places of business of these disgusting and devastating creatures.

Really, it is strange to observe with what equanimity and fatalism the people of this country view this voracious agile insect overrun their premises—see the partitions and ceilings swarming with these creatures as they fill the room with the buzzing from their vibrating wings, see them chase over their table and victuals while the family are eating their meals, find them emerging with lightning speed by the hundreds from every receptacle when being unlidded, watch them gnaw up and destroy their linens in the chests, find their dead bodies in the soup, and all that—and one cannot fathom the psychology of these folk, considering our present stage of civilization and general refinement.

In regard to this house-pest, our American people act as though there were no defense against them and must be endured; so, they have become inured to their repugnant pres-

ence—the more so, since they seemed quite innocuous and do not annoy us as do the bloodsucking marauders.

And, yet, it is so easy to get rid of cockroaches, if one only goes at it with a will. And all that is necessary is, to keep the corners clean, ransack all receptacles and shelvings at frequent intervals, keep all foodstuffs under cover and leave no food remnants scattered about (especially over night), and—and this is the only direct exterminator required—use borax, and use it freely. That is all, except to putty up and seal up tight all communications with rooms in the same building occupied by other people. If this is faithfully kept up, no casual intruders from the bakery or grocery will have a chance to multiply and plague you.

All kinds of formulas for cockroach-exterminators fill books and magazines, representing every possible and impossible combination of drugs and things; men have grown rich selling compounds of secret compositions; other men have gathered in the shekels by ridding premises of cockroaches, charging fancy rates for their services. Many of the recipes passing from generation to generation, from one druggist's journal to another, are absolutely worthless, others are ridiculous conglomerations, while the substratum of practically all having any worth is borax.

The writer of these lines himself for nigh unto a lifetime was obsessed by the superstition of the complex formula for cockroach-destroyers and in an editorial capacity has faithfully helped to disseminate them among the drug fraternity. He awoke to the truth, however, a few years ago, when, in the house of an acquaintance he met and saw operated one of those "cockroach-contractors"—one who had been in this business "since the fire," and whose magic powder was the fore-runner (so far as the writer is advised) of the various exterminators upon the market.

A modicum of the compound was obtained, and the gentleman was adroitly interrogated in certain directions; and this, together with certain other knowledge, established the fact that the powder was nothing but borax, to which a percentage (*ad libitum*—but from 8 to 20 percent) of a farinaceous substance—fine cornmeal—is added to prevent the borax powder from lumping and to make it more easily distributed with the bellows. Persian insect-powder sometimes is added, but any great additional benefit from it may be doubted. (Most people ignore the fact that pyrethrum powder quickly loses its virtue upon exposure.)

Now, here is something that may interest many of us. The cockroach, like the fly, is a very cleanly beast and continually wipes its body with its legs and then draws them, as also its centennæ, through its mandibles, in order to rid them of anything adhering to them. (This is a physical necessity to keep it in fit shape.) So, when a cockroach has run through a bank of borax, or the powder has been blown over it, it embraces the first opportunity to clean itself. Watch him—it's interesting! (Catch 'em when they are sickened by your "exterminator" and are less speedful, and put them into a large bottle covered with gauze, supplying them with damp bread or fruit. You will learn other interesting things.)

By this toilet-procedure the cockroaches get all the borax "they want"—and your tempting sugar and flour and cacao and what not is wasted; for they do not eat the stuff in the regulation way. Nor do you need to endanger your household by the addition of paris-green or other poisonous chemicals; the harmless borax is "sure death" to them; only they must get it on their legs, somehow.

The trouble with our people is, that they will blow or scatter about a "nickel's worth" of some powder and then brag they "have done everything in the world," but do not even clean the corners, or kill all possible, or destroy the "eggs" cast off by the females. By the way, altogether too little attention is paid to these "eggs," for each one of those brown capsules contains from one to two dozen of young ones, which upon release, are "ready for business." Hot water destroys them; but neither the powders nor benzin affects the shells. It may be added that as the larvæ mature they give off a glutinous fluid that softens and breaks the suture of the capsule.

To free the premises from the cockroach pest, all that is necessary is, to strew in "ropes" the borax mixture along the top and bottom of the washboards, on window and door-frames, along and behind shelves, and wherever they are wont to hide. Then, with a powerful bellows, blow the powder into all chinks and behind boardings from which they emerge, and where they hide during the daytime. Leave the powder there, no matter how "it looks." If by exposure it has become lumped, it must be replaced by a fresh batch. (Persian insect-powder rapidly looses its efficiency by exposure to air; not so borax.) This is all the "bug specialists" do. When the creatures have ingested the borax, they grow sick and will come out of hiding—much

less agile—and then is the time to smash them. All possible must immediately be swept upon the dustpan and incinerated.

This treatment, if faithfully carried out, positively will clean out isolated buildings or flats—but only vigilance and cleanliness will keep them clean. It must be remembered, though, that at a given time there are present a number of generations hidden in their egg-capsules, and that these will hatch at successive periods; while any female escaping poisoning, whether of the original or a younger brood, will quickly multiply into the thousands. Hence, the powder must be kept in place for at least a month after the last single individual was seen on the premises. Chicago is badly infested by the blattids and other domestic insects pests (it is an indictment of the inhabitants), but the writer has successfully combatted them in more than half a dozen premises.

We have, here, the large blackish cockroach (also called black-beetle), and the smaller light-brownish (imported) variety known to many as the croton- or water-bug. Borax is deadly to both. So it is to the bristletail (silvertail, silverfish). One other of these nasty house-pests, and a destructive one—the "house-centipede"—can not be exterminated with borax; for these, copper-arsenic compounds are demanded. In passing, the writer should like to learn the proper term for the latter creature; which is the most repellant of the whole mischievous brood, and which also is said to be poisonous.

Benzin (gasolin, etc.,) is very efficient for killing any one of these pests, as well as bedbugs and fleas (it does not kill the eggs), only it is dangerous in careless hands. Sometimes it only numbs, though, for a time, so that they must be smashed when they come out in their agony, or be swept up, if seemingly dead. The fluid is useful to reach them in cracks, crevices, and behind boards. A hard-rubber, long-nozzle syringe is best for applying the benzin; or a quill may be fitted into a cork. (A swab or brush is wasteful.)

It may interest some to know that the word cockroach is a corruption of the Spanish *cucaracha*, the "roach" being a harking to the previously known word, but which does not refer to any like creature. A similar instance is the popular interpretation of asparagus as "sparrow-grass." Hence, it is incorrect (though now sanctioned by the dictionaries) to refer to cockroaches, as Americans do, except as colloquial, and understood, abbreviation. In the West Indies, there are cucarachas two inches long, that are bred in the woods, and fly about like grasshoppers. Confined in pasteboard boxes, these "critters" make a noise like gnawing mice.

ADOLF G. VOGELER.

Chicago, Ill.

DR. HOLLEN ON PRACTICE IN CUBA

If you are a good operator, write to Dr. Laine, Havana, corner of the Prado and Virtudes St., and get information. The doctor is looking for a man to join forces with him—one who is a good all-around surgeon and has a little capital. His plan is, to establish on a small scale a hospital, for the accommodation of the "American colony," as well as for others who may care to come in in case of sickness.

If you care to specialize in nose and throat work, write to Alfred E. Holmes, of the Norway legislation, Apartado 977, Havana. This gentleman assured me that he could place at least one doctor very favorably.

"There is no one here at present," were his words, "to whom we feel like going; and we "foreigners" do not care to patronize a Cuban or Spanish practitioner. Consequently, many of us are forced to go to the States for treatment—at great expense and loss of time."

"And you are quite sure there would be enough to do for the doctor who comes here?" I inquired.

"Yes—absolutely! There is an income here from the start, for the right man. Better yet, if he can fit glasses."

And there are a few other openings, but I would advise everybody interested to go down first to investigate. Take plenty of time and look around—from one end of the island to the other. Various objections to living and practicing in Cuba will present themselves, and each one must decide for himself whether they are worth negotiating for what there is is in it.

As stated in my article in the June number, no reciprocity obtains; nevertheless, a good man, one who is determined to stay in Cuba, will not find himself barred out. The present (new) administration is very favorable to American settlers of every class.

And don't go down "broke," expecting to find occupation of some sort to bridge you over. There are very few positions open which a professional man can, or will, fill—especially if he can not speak the language of the island, which, of course, is Spanish.

For any other information, write the doctors on the ground (see directories), not forgetting to enclose a stamp for reply.

HENRY B. HOLLEN.

Chicago, Ill.

TOO MUCH LEGISLATION

The Bulletin of Pharmacy prints the following letter, which was sent to the Pennsylvania Pharmaceutical Association, prior to its annual meeting, some weeks ago:

Having observed in the public newspapers that a member of the legislature intended offering a bill to prevent the sale of bichloride of mercury tablets, inasmuch as several deaths have occurred from the carelessness of individuals, I would suggest that your honorable body, by resolution or otherwise, request the said member of the legislature to add that "owing to the fact that great numbers of our citizens have departed this life by the sure and easy method of inhaling illuminating gas, on and after the passage of this act it shall be unlawful for any one to use illuminating gas without first securing a prescription from a duly registered physician so that the ignorant, careless and vicious may be protected." Should your body see fit also to add guns, knives, and razors to the act I will offer no objection.

We would suggest that green cucumbers and hot biscuit be added to this list, and that it be further enacted that these agents shall be obtainable only from a duly registered pharmacist, dispensing of any of the aforesaid by the physician himself being rigidly forbidden. The latter criminal (the dispensing doctor) should under no circumstances be permitted to use potent drugs or eat warm food—in fact, what right has he to eat anything? (See recent issues of *The Journal of the N. A. R. D.*)

WORMS AND TYPHOID FEVER

Worms is a rather prosaic subject, one that we very seldom see discussed in medical journals, and yet, nevertheless, one which the general practitioners meet with about three hundred and sixty-five days in the year. When I was a medical student in one of our leading medical colleges, I recall, how our lecturers, apparently by unanimous consent, almost wholly ignored "worms." I further find a scarcity of information on this subject in our textbooks, especially as to the clinical manisfestations.

It very frequently happens that the young doctor's first call is in a case of worms. He is usually somewhat puzzled by the symptoms, and after making a tentative diagnosis of gastritis, pneumonia or chorea, he is very much surprised to see all symptoms clear up in a remarkably short period after the administration of santonin and calomel.

The frequency with which worms complicate pneumonia and typhoid fever, both in children and adults, is not duly appreciated by the average doctor. It is a concomitant condition that is often overlooked or that does not manifest itself until the patient is in a more or less exhausted condition. A great many physicians apparently act on the presumption that worms do not constitute a pathologic condition, and, hence, require no special attention. Occasionally a patient is tided over a severe case of typhoid fever or pneumonia, only to succumb later to the ravages of the ascaris lumbricoides.

The following cases are of interest:

Case 1. In the winter of 1910 to 11 I was called to see Mr. J. He was suffering from pain in the left side, had a temperature of 103°F., was expectorating a tenacious rusty-colored sputum. My diagnosis of pneumonia was confirmed by physical examination.

From the time treatment was initiated the case ran a rather mild course until the ninth day, when the temperature fell to normal and the signs of resolution were noted in the lower lobe of the left lung. The tongue was coated, and there was complete anorexia. About this time considerable distension of the abdomen was present and the patient began to vomit. Bowel action ceased and could not be induced by enemata.

At this juncture the nurse informed me that the patient had vomited a worm during my absence; so, I immediately began to administer santonin and calomel. The tympanitic condition of the bowels increased and in a few hours patient became delirious, passing away before arrangements could be made for an operation. In all probability occlusion of the bowels occurred from the presence of worms, although I was not fortunate enough to be granted an autopsy.

Case 2. Boy, age 13 years. On my first visit I found the patient with a temperature of 105°F., headache, the stomach and abdomen tender on pressure, and slightly tympanitic. On pressure passage of flatus from one portion of the intestine to another could be heard. The patient was very restless and displayed mental wandering. On palpation of the abdomen, something knotty, irregular, and more or less movable could be felt. A diagnosis of typhoid fever and worms was made.

After an initial dose of calomel and santonin, there occurred four or five stools a day, of a color and consistency resembling pea-soup, and of extremely foul odor. Several worms were passed during the first twenty-four hours, and during this time the temperature ran still higher and the patient became more delirious.

The sulphocarbolates were now given every four hours, and by means of an ice-bag, cold-packs, and a few doses of phenacetin, the temperature was reduced to 102°F., while the delirium ceased.

My diagnosis of typhoid fever later was confirmed by the appearance of typical rose-spots. The patient was regularly given castor oil and turpentine oil each day, and discharged worms in various numbers almost daily until the end of two weeks, when his temperature reached normal.

This case looked very bad in the beginning, but the patient responded nicely to treatment. Oil and turpentine were given daily, with a view to completing the work of the santonin and calomel, also as a valuable adjunct in the treatment of typhoid fever.

If a physician desires to be successful in the treatment of typhoid fever, he must assiduously guard against complications, as it is usually a complication or relapse that kills.

H. W. SMELTZER.

Greendale, Va.

TYPHOID-FEVER REPORTS

I was called to see C. H., a farmer 35 years of age and of robust physique. I found symptoms of autointoxication, but the patient said, "Doctor, I feel just as if I were taking typhoid fever." A temperature of 99°F., a coated tongue, and a feeling of lassitude were the only symptoms observed. It being May and the family living almost at the foot of the mountain, I could hardly suspect typhoid fever; still I told the patient I would put him on appropriate treatment, and had the Widal test made to be sure of my diagnosis.

I prescribed as follows: Calomel, gr. 1-2; podophyllin, gr. 1-2; sodium bicarbonate, grs. 5; this quantity to be taken every half hour for six doses. Then, three hours after the last powder, a dose of saline laxative. Also a heaping teaspoonful of sodoxylin four times a day and the 5-grain intestinal antiseptic tablets (three sulphocarbolates) in a half a glass of water every hour.

I saw the patient again in two days and his condition was about the same, the temperature never having been any higher. The same treatment was continued, and every precaution as to sanitation about the premises was taken. Meantime the laboratory report was received, which gave the Widal test as positive. I saw the patient again two days later, when there was marked improvement. Just seven days from the first day the patient went to bed, he started on solid food, and uninterrupted recovery followed. The state bacteriologist made the Widal test, and there can be no mistake.

Within a week following the first case, I had another patient giving a positive Widal reaction. This patient, only 12 years of age, also recovered in about the same length of time, but the temperature went to 103 degrees at first. Then within another week a third patient giving a positive Widal came under my care. These individuals were in widely separated sections of the country, and no other cases were reported in this section during this time.

This last one seemed to be a real old-time case of typhoid fever, with a temperature of 104 degrees, a coated tongue, headache, aching muscles, tympanites, constipation (instead of diarrhea), and a typical history previous to this. A trained nurse was placed in charge. My treatment included a wide variety of drugs as suggested by the different symptoms during the course of the disease, and included: calomel, podophyllin, the sulphocarbolates, strychnine, and digitalin; the drugs being used to control conditions as presenting themselves. The active application of remedies, even for a short time, kept complications in abeyance. This third case responded to our care in short order—two weeks of fever—as I now expect all my typhoid fever patients to do.

Sometimes I use cold baths, but I prefer tepid sponging. I lost one typhoid case to another doctor, once, because I used snow rubbing, personally, to control hyperpyrexia. I had to do it while I was waiting for my medication to act. The people, however, did not appreciate my efforts.

In reporting my last case to the county health officer, he called me over the phone to learn whether I had not made a mistake in the duration of the sickness. He could not believe that it was true typhoid fever, if recovery was so prompt.

Another amusing incident was being criticized by two individuals in the neighborhood

for not being being able to diagnose typhoid fever without a blood-test! As I am editing a health column in the county paper, I shall explain this at length, as others may not understand it either.

F. E. McCann.

Salesville, Mont.

THE SECRET OF THE BIG TREES

In the days of the Prophet Elijah, sore famine afflicted the land of Palestine. No rain fell, the brooks ran dry, and dire distress prevailed. "Go through the land," said King Ahab to the Prophet Obadiah, "unto all the fountains of water and unto all the brooks; peradventure we may find grass and save the horses and mules alive, that we lose not all the beasts." When Obadiah went forth in search of forage, he fell in with his chief, Elijah, and brought him to Ahab, who greeted him as the troubler of Israel. Then Elijah prayed for rain, according to the Bible story, and the famine was stayed.

From this famine in Palestine, some 870 years before Christ, to the forests of the Sierra Nevadas, in the twentieth century, is a far cry; but the connecting link between the past and the present, between the ancient East and the modern West is found the big trees of California, the huge species known as sequoia washingtoniana.

In a publication entitled "The Secret of the Big Trees," by Ellsworth Huntington, just placed on sale by the Superintendent of Documents, Washington, D. C., it is shown that the growth-rings in the big trees of California indicate that in general the same sequence of climatic changes took place in California and Asia Minor. Curves indicating climatic conditions in California and Asia Minor show a remarkable resemblance between the two regions. The curves begin with the epoch of the Trojan War, about 1200 B. C. There both curves dip very low, indicating an epoch of sudden and severe desiccation. That particular period, historians tell us, was one of the most chaotic in all history.

The famine in the days of Elijah appears in both curves. Apparently at that time the climate did not become extremely dry, nothing like so bad as it had been a few hundred years earlier, during the amount of rainfall as compared with the uncommonly good conditions of the preceding century. About seven hundred years before Christ both curves stand high in the day when the Greeks were laying the foundation of their future greatness and the empires of Mesopotamia were at their height. Then comes a pronounced falling off, with a recovery three or four hundred years before Christ, another decline culminating about 200 B. C., and a recovery reaching a high point about 50 B. C.

The time of Christ, the great era of universal peace under the sway of Rome, was apparently an epoch of favorable climate, a time of abundant rain and consequent good crops in all the countries around the Mediterranean Sea and eastward in Asia, as well as in California. Next comes a long period of decline, culminating six or seven centuries after the time of Christ. No period in all history, save that which centers about 1200 B. C., was more chaotic; and that early period also appears to have been a time of greatly diminished rainfall.

This publication, which may be purchased from the Superintendent of Documents, Government Printing Office, for five cents, gives a detailed account of the reasons and the work that led to the conclusions given above. It also contains 13 illustrations, showing the big trees in the Yosemite, Sequoia, and the General Grant National Parks.

ANOTHER SCHEME TO GET THE DOCTOR'S MONEY

From subscribers to Clinical Medicine in Illinois and Iowa we are receiving copies of a letter sent out by the secretary of a coal firm that has general offices in Chicago and in mines at different places in the state of Illinois. This letter reads as follows:

> I have in my possession a physician's prescription for rheumatism, which has eliminated the pain every time I have used it. I am subject to acute attacks about once or twice a year, and, as above stated, this remedy surely does the work. I fully believe that, should you prescribe it for any of your patients, good results would be obtained. My own family physician prescribes this remedy with success, and thereby endorses it. If you will send me one dollar in enclosed envelope, I shall take pleasure in mailing you a copy of this prescription, which you should have without fail.

The letter is hardly one deserving special comment, yet, we must say that we agree with one subscriber who says: "It is getting pretty 'raw' when an individual will sell a physicians prescription after he has derived benefit from it, in order to get a little personal graft out of it."

What makes this individual's nerve appear all the more colossal is the fact that he is not going to the laymen with his "wonderful prescription for rheumatism." He deliberately goes out to the physician, whom he is

anxious to instruct in the practice of his art. Is it any wonder that many doctors who have received this letter look upon it as an insult?

APPENDICITIS

Said the would-be surgeon wise, as he rolled his solemn eyes,
"Cut it out."
Long ago it was an ache,
Inflammation, or a cake,
But now it is no fake.
He can see through a knife, and he warns you on your life,
"Cut it out; cut it out."
The saw-bones fresh from school mutters, like a foolish fool,
"Cut it out."
If a cramp your rectus gripes,
Or a little wind in stripes,
Doubles up your sewer-pipes,
He repeats in accents wise, and no matter if he lies,
"Cut it out; cut it out."
If a little dinkey pain strikes your abdomen again,
Don't be rash.
Call a doctor you can trust,
One that's free from money-lust;
And if he says, "You must,"
Shut your mouth and grin and go where the pretty nurses grow,
Let an expert cut it out.

A. D. HARD, M. D.

Marshall, Minn.

HELP TO MAKE SMOOTH THE ROAD TO MOTHERHOOD

It is probably natural for a conscientious physician to feel that he knows altogether too little about the art of the great, though imperfect, science, by which he professes to relieve the sufferings of humanity, and incidentally to separate the laity from a small portion of their lucre. Being no exception to this rule, I resolved early in my practice, to consider all suggestions, no matter what the source, whether from the learned professor or the empirical negro "granny," and to "prove all things and to hold fast to that which was good."

I will say that the source from which I probably have gotten some of the most important information outside of my own profession, has been the veterinarian. I have been fortunate in having a close personal acquaintance with three first-class veterinarians, one of whom has an international reputatuon, and than whom there is no better. I speak of Dr. W. H. Dalrymple, M. R. C. V. S., professor of veterinary science at the Louisiana State University. I never meet any of these gentlemen without adding something to my store of useful practical information.

We gain so much knowledge in the laboratory, through experimenting on the lower animals, that it seems strange that so little attention is paid to comparative therapeutics. There is not a question of a doubt that the *human* physician as well as the *humane* veterinarian would make his science much more nearly perfect by possessing himself of diplomas from both kinds of schools.

It strikes me that it would be well to establish a chair of veterinary science in every one of our medical colleges, and require every applicant for graduation to have taken the course or to show a certificate that he has taken the course at his state university. The following recital alone will be sufficient proof of the wisdom of such a ruling and this little information, which I believe will, when called to the attention of the medical profession, be of inestimable value to prospective mothers in making smoother the rugged path to maternity, was gotten from a—swine-man. Come to think of it, valuable lessons have been gleaned from the swine-men even as far back as the "prodigal son."

This man of whom I speak was a practical man, and, so, when he started to raise swine he bought Coburn's book on "Swine Raising." In this book he read that, if sows were fed on *Indian corn* during gestation, especially during the later months, the pigs were delivered with the greatest difficulty. Usually the pigs would come dead, and often the sow would die also, not being able to deliver.

The reason for this is quite apparent. In preparing hogs for market they are always "finished off" with a corn ration, to harden the flesh"; this making so much difference in the texture of the flesh that the experts at the stock-pens can tell at a glance which hogs are corn-fed, and which are not.

Then the question presented itself, "If that is true for the lower animals, why not also in the case of humans?"

A friend of mine, whose wife was then just starting on her fifth pregnancy, hearing the discussion, decided to make the experiment. His wife was a great lover of the cornmeal products, and it was recalled that during the four preceding pregnancies she had been extremely nauseated all the way through, and had been an unusually long time in labor each time, and there had been considerable injury to the babies' heads from the compression, while one of them died. I was not with her in the first four confinements, but that is the history given me. Now, however, during this, her fifth pregnancy the mother was not nauseated at all, was in labor not to exceed three hours,

gave birth to the largest child she had ever had, and, yet, experienced less suffering than ever, and the child's head was in good shape. Her muscles and tissues, I found, were soft, and yielded readily to the oncoming head.

Dr. Todd of Santa Lucresia, Mexico, and his beautiful wife

Since that time I have experimented with quite a number of women, and the result was the same in each case. I fear no laceration of the perineum in cases where the cornmeal diet has been eliminated. On the other hand, wherever I have not been notified ahead, and the woman has eaten freely of cornmeal products, I expect, and find, great difficulty in preventing laceration. In one muscular young woman who ate a great deal of cornmeal, it was absolutely impossible to prevent an almost complete rupture of the perineum, which I had to operate upon at once. The muscles were so hard and strong that they would not yield, and the *vis a tergo* so great that rupture was the inevitable result.

I now always give instructions to every expectant mother in regard to this matter and thereby eliminate a vast amount of suffering on her part and fight more than half my own battle.

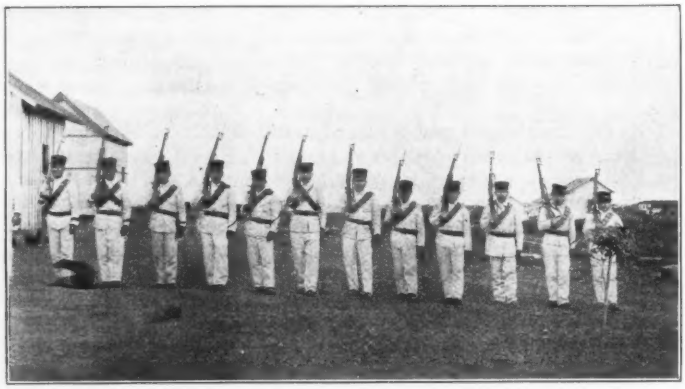
Furthermore, I always advise young men who are expecting to study medicine by all means to take the agricultural course after completing their college course at our state university. They can get enough Latin and Greek for medical nomenclature and more chemistry than in other courses, and above all a good course in veterinary science. I have regretted only once, and that is ever since graduation, that I was not so advised while I was there.

E. B. YOUNG.

Baker, La.

FROM REBELLION-CURSED MEXICO

I left Tulane University (New Orleans) in the spring of 1910 and went to Central America, where I stayed awhile, being more or less mixed up in five revolutions in but little more than a year. The sugar-plantation at Santa Lucrecia, where I now am and have been for two years, employs three thousand men and women. It is one of the largest in Mexico, turning out a hundred tons a day. I am the only doctor within a hundred miles, and during the rainy season I am pretty busy at times, when I am attending more than three hundred patients a day for weeks at a time. But in the dry season, when I get the



Dr. Todd's guard, used to enforce quarantine regulations

Prepared to rebel invaders! There is smallpox on the other side of this Mexican river

place cleaned up, the number runs down to from thirty to fifty daily.

I have two hospitals, one holding thirty patients and the other sixty. My operating-room is well fitted up with all the necessary equipment for surgery, as is also my microscopic laboratory.

The easiest work I have is that in the line of obstetrics. There is little difficulty about coming into the world hereabouts. I am entimologist for the plantation, too, and am having some success in propagating a fungus to kill the bug that destroys the cane. My duties are in part those of the army-surgeon also, because these native fellows like best of all to scrap; and with their machetes and cane-knives they certainly slice one another up terribly.

I get all kinds of practice here. For instance, yesterday, in a fight, one fellow got his head cut open and another his jaw cut nearly off. Last week a train turned over and there are five in the hospital as a result—one leg, two feet, one hip, and one collar-bone broken, two shoulders out of joint, and one arm off.

The soldiers shown in one of the pictures enclosed are used to enforce my quarantine regulations. (Other photographs represent scenes in the streets of Mexico City.) A virulent type of smallpox has existed just across the river from us for a good while. I did hope to be able to prevent its introduction upon the plantation, but without success, and now we have it the worst sort.

Our news here is naturally chiefly war-news, and it keeps one busy to keep up on that. With all of the interest that this beautiful wilderness holds for me (and I have lived in tropical countries most of my life), I am getting tired of the unsettled political affairs of this country and shall leave here for the States this fall.

E. B. TODD.

Santa Lucrezia, Vara.

—

[Doctor Todd informs us that he is chief of the cleanup gang and has to issue permits to those who are laid off from work because of illness or other disablement. He reads CLINICAL MEDICINE and likes it.—ED.]

MEXICAN PEOPLE AND MEXICAN PROBLEMS

(CONTINUED.)

Bismarck, the great German chancellor, after the Franco-German war, thought to crush the French government by levying upon them the enormous indemnification of 5,000,000,000 francs. He did not count upon the patriotism of the French people, who cheerfully offered their savings, big or little. on the altar of La Patrie. And such acts give a new and a holier meaning to the word which designates the country of our fathers and of our birth. The enormous sum was paid, through French patriotism, in such a an incredibly short time that the world sat up and took notice.

The Mexicans consider themselves of Latin blood and of the same race as the French, and it was thought that what the French did do the Mexican people would do

See the house marked with a star? This is where Dr. Todd (see preceding page) lives. Plantation office in the foreground

also. And so the Mexican government resolved to float a loan of 100,000,000 pesos among its own people.

In the meantime, the governor of the state of Miohoacan, Dr. Silva (professionally a very popular man), full of enthusiasm for the idea, resolved to make a call also on the patriotism of the people of his state, and he asked for voluntary contributions for funds to arm and equip one thousand men to check the depredations of the many bands of outlaws within the border of the state. In the country where I reside, two men, I believe, contributed 15 pesos each, one man gave two pesos, and two men gave each a horse. Total, 32 psesos (about sixteen dollars) and two horses. So, the state government had to levy a military tax. It was very small and reasonable, but now the people are studying up means to get the rascal Silva, the erstwhile idol, out of that chair—for as a governor he clearly is no good.

Judging from this instance, I am afraid that the Mexican government will have to look for its $50,000,000 elsewhere, as Mexican patriotism does not seem of the same Latin brand that the French article is made of.

The brand of patriotism as manufactured in Mexico has other peculiar manifestations, not easily understood by such prosaic people as represent the Anglo-Saxon race. They will destroy their own native towns and cities, and rebels always count on the patriotism of the native-born sons of the town they wish to take. So that you may understand what I mean, I will mention one case out of many, the destruction of Puruandiro of my state.

Puruándiro was taken by perhaps fifty rebels, it is said; but that is not so. The rebels put themselves in communication with the lower class of citizens of the city and on the night agreed upon, they attacked the town, looting and burning the stores and private dwellings, raping women and young girls, some of them only eight years old or less, and murdering those against whom they held grudges.

Next morning Puruandiro, a city of about 7000 people, was a heap of smoking ruins, full of dead and dying, and above the crackling flames, the moaning of the wounded, and the lamenting of women and children rose the unearthly yelling of the drunken and looting demons, who yet in open daylight, not heeding the pleading of women and children, satiated their inhuman, bestial appetites on their victims, in public places, beside the dead bodies of father or mother of the victims, not respecting even death in their orgies.

So, the reader may understand, we are not so much afraid of the rebels from without, who easily could be beaten off, as we are afraid of our own people, those that are within our gates, and often in our own households. They that eat our bread, they that have received many kindnesses from us, they are our worst enemies; of them we are afraid.

The city of Uruapan was looted by its own people, and it was not government troops that restored order, but the rebels who were called in and whipped the rabble.

Right now we are isolated, with the rebel lines not very far away, and it is a long time

since we have had communication with the outside world. When Huerta became president everybody believed that the end of all strife was in sight. But Zapata, Orozco, and others stayed in the field. However, many rebel bands came in and acknowledged Huerta's government, manifesting their willingness to take the field against their former companions. It was generally believed that the few bands that refused to come in would soon be crushed by sheer superiority of numbers. Then the unexpected happened.

Gertrudis Sanchez, who had received arms and ammunition from the new government, counted on Salgado, one of the most heartless scoundrels that ever looted a store or sacked a town. As, during Madero's régime, he had been the object of persecution, of the Figueroas, Sanchez, and Vicaries, it was known that he harbored ill feeling against those men. So, the government counting on this, fitted him out and put him in the field against the new movement.

Now Salgado, true to his instinct, is looting towns and committing all kinds of depredations on his own account, so that we have in our district, Michoacan and Guerrero, at least 4000 men against the government. They lately took the town of Tacambaro and spread all over between here and Patzcuaro. An armistice of six days gives us a short respite, but within two days more, on the last of this month, that will be up.

Just now they are putting up posters advising the public of the creation of a new office in the Ministry of Public Works, called the Department of Labor, with the attributes of an employment bureau. This department was created in the hope of putting an end to the revolution, by giving work to the unemployed, which proves that the government officials do not know the real condition of the country. Anybody who desires work can have more than he can attend to, and at better wages than he ever enjoyed in his life before. The wage here formerly was 25 cents a day, and now it is $1.00. Coconut, cacao and banana groves are going to ruin for lack of men willing to work, and the finest lands God has made are allowed to grow up into wilderness again because no one wants to work.

In Tampico, the big oil interest is begging men to work at $3.00 a day. And so it is all over the country. Either government officials are fooling themselves with the idea that the revolution is kept up by the unemployed, or they want to fool somebody else.

As I am starting to write again, I receive word that Tancitaro, a neighboring town, has fallen a prey to its native sons, who are robbing stores and destroying the archives of the town. As will be seen, Mexico has to deal rather with an anarchy than with a simple revolution. Tancitaro is close by and in my district, and they may be here before tomorrow morning.

I do not know whether you will ever get this paper, but before putting up the machine I will conclude with the following résumé:

The real cause of the revolution is to be found in the character of the people, their disinclination to work and to take advantage of the natural resources of the country, their extraordinary unfairness in their dealings, and their lack of responsibility. Their so-called grievances are pretexts only.

If in this country a man is poor, one does not need to go far to discover the cause. One can never satisfy a people that do not want to be satisfied. I believe, though, that, if the government of Wilson had recognized the Huerta regime, it would have been easier for this government to squash the uprising. The fact of recognition having been withheld has emboldened Carranza and Maytoreno, and through them the lesser leaders.

Owing to the bad management of the Madero régime, this government is short of funds, and, until recognized, it will not be able to float a loan. In the meantime the rebellion grows stronger, and, owing to this procrastination at Washington, the whole affair may cost rather dear to the United States before the thing will be over.

If Huerta was a traitor (and no one loves a traitor), that is none of our business if this people need a man like that. Porfirio Diaz did the same tricks and pretty nearly in the same way, and he was the greatest president the republic ever had.

Remember the murder of General Ignacio Martinez in Texas. Martinez, an enemy to President Gonzalez and Diaz alike, had to emigrate to Texas, where, thinking himself safe, he practiced his profession, that of medicine. One night he was called to see a patient, and next morning his body was found full of knife-wounds. Did Washington know the originators of this crime? I am inclined to think so. I know rather more than I should like to reveal, as I met one of the assassins personally. General Reyes, then governor of the state of Nuevo Leon, also knew who arranged that affair. And Doctor Martinez was only one out of several hundred that were made to disappear. I have men-

tioned him because he was silenced on United States soil.

Porfirio Diaz did do great things for Mexico, and in the Mexican way—a way the people understand and appreciate. Thirty years more of his way of governing, and the future of the people would have been assured. They are good and gentle, but they still hear, by their firesides, the deeds of their fathers extolled. Thirty years of peace was hardly sufficient to kill the desire to imitate those deeds.

Also the people were not taught that the greatest patriotic deeds are to work and make the fatherland progress. And loafing comes so easy. Madero, with his adventure, has put them back again at least another thirty years.

Now I must close. When I started this article I did not think that I might have to finish under a close call; but word just now received informs me that there may be whole bunch of fun in a few hours. So goodbye. If we come out all right, I shall let you know.

A. R. HOLLMAN.

Apatzingan, Michoacan, Mexico.

MIDSUMMER MEANDERINGS

As August draws on, with its fields of corn, its resplendent moon, its inevitable languor, the editor's mind passes to less weighty thoughts. Was it not Spencer who said that after forty years of scientific study his mathematical sense had crowded out all perception of beauty—of "the beautiful?"

Many workers give so much attention to routine as to dull or stunt their imagination, and their powers of imagination, even if retained along soberer and scientific lines, fail to maintain the gayer range of fancy. It was Coleridge who asserted that fancy is distinct from imagination, so that a keen imagination may give rise to inventive principles. Fancy can hardly be attributed as the basis of scientific innovations.

Perhaps this may account fer the absence of those habiliments of medieval times—heraldic devices, gowns, badges, crowns, scepters, and insignia—which even today are present, symbolizing orders and social bodies. Science uses chemical symbols. Medicine still involves Jupiter in the crossed R of a prescription, some say. But this, if true, is a vestigial and historic perpetuation.

Can fancy construct a picture of the home of a famous heart specialist receiving the name "At the sign of the Foxglove?" Or of some internist employing a monogram of the leaf of liverwort?

When these men establish handsome country places, do they ornament their retreats with hedges and flowers, such as digitalis, belladonna, poppies, and the scented mints afford? Their "mints" exists only in banks, not on flowery banks, alas! And we fear fancy flees as Pope saw her escape two centuries ago—

> She comes! She comes! The sable throne behold
> Of light primeval and of chaos old!
> Before her Fancy's gilded clouds decay
> And all its varying rainbows die away.
> Wit shoots in vain its momentary fires,
> The meteor drops, and in a flash expires.
>
> * * *
>
> Philosophy that leaned on Heaven before
> Shrinks to her second cause and is no more.
> Physic of Metaphysic begs defense,
> And Metaphysic calls for aid on Sense.
> See Mystery to Mathematics fly—
> In vain! they gaze, turn giddy, rave, and die!
> —*The Dunciad.* (Excerpt.)

Better go out and pick a bunch of witch-hazel, to deter such a culmination!

T. H. EVANS.

Freeport, N. Y.

A TRAUMATIC NEURITIS: A NEW DISEASE

At present I am sojourning at my summer-home, far from medical libraries, so that I have no chance to consult the authorities. Therefore I put forth no claim to priority, for long experience has taught me that there are others, and that very little has escaped the observation of my follow doctors. Yet, I have never found in print an account of the affection I am about to describe—and to me it is new.

Speaking in a physical sense, I have never done a day's work, my occupation, as also the occupations of my fathers, having been of an entirely sedentary nature. My muscles, therefore, are untrained and not inured to labor, although I have neglected few opportunities for exercise—rowing, gymnastics hunting and the like, and for years I have taken pleasure in chopping and sawing wood, as my good friend Abbott's summer-home woodpile eloquently demonstrates. Since acquiring my present delightful resting-place I have been very busy cutting out dead trees, clearing brush, sawing and chopping out posts, poles, stakes, stove-wood, etcetera, and the zest with which I have wielded ax, spade, saw, and bush-hook can be appreciated only by those who, like myself, have attained to

their sixty-fourth year, or thereabouts, and led an absolutely sedentary life.

Some warnings I had, in the way of numbness of parts of the hand, especially when writing or typewriting. Then came the attack—suddenly and fierce. In the night I was awakened by intense neuralgic or neurotic pains in my hands, confined now to the radial-nerve region, now to the ulnar, now affecting both, with spells of anesthesia, similarly limited.

The pain was very severe and was aggravated by cold, while slightly relieved by heat. Several times each night it seized me. In the mornings my fingers were stiff and anesthetic and putting on the garments occasioned much distress, although after a time my hands limbered up. During the day there were similar attacks though less painful, and any attempt at the use of ax or other implement brought the warning anesthesia. Return to the city, with its surcease of manual effort, was followed by a gradual subsidence of the pains; still, writing was prone to bring some of the trouble back. Nevertheless, I had forgotten until my next visit to the woods, when a similar indulgence in work redeveloped the painful trouble.

The affection is distinctly connected with the nerves, and not neuralgic. It recurs at night with an intensity resembling "jumping toothache." It continues a week or more after the work that induces it has been discontinued. It tends to recur weeks later when attempting to use pen or typewriter.

At the last attack I betook me to the city, where I consulted an expert masseur. He manipulated my hands for twenty minutes at the seance. At 2 o'clock that night I was obliged to call for relief, from another attack, and this was afforded by a similar massage.

The pains have not recurred since then, although the numbness affects my hands even now, as I write.

Inquiry shows that this affection is well known to woodsmen, who attribute it to the unconscious tendency to grasp the ax or other implement too tightly. But the singular fact, if fact it be, is, that nobody seems to have described this trouble. If so, I shall certainly expect to have it known as "Waugh's disease," and go down to posterity thus honored. But if anybody wants it together with the attendant glory, he may have it and welcome, if only he will relieve the condition with some therapeutic treatment or offer some preventive measure, and so will free me of this disability, so that I can work as I like without having to suffer for it.

W. F. WAUGH.

Muskegan, Mich.

SUCCESSFUL TREATMENT OF POLIOMYELITIS

I wish to report my experience with a case of poliomyelitis in an infant ten weeks old, and in which recovery was rapid. I first saw patient on fifth day of the disease after two other doctors had pronounced it hopeless.

I found the patient apparently lifeless; the child could not move any of its limbs, even the neck muscles being paralyzed. Secretions were locked up so far as the kidneys were concerned; abdomen was tympanitic; throat, sore; tonsils, enlarged; patient swallowd with difficulty; the ciliary muscles were stationery; vision was lost; temperature, 101°F.; pulse, 120; respiration, 75; breathing, difficult.

The first thing I did was to give a warm bath, gradually cooled, for the fever; putting a cold wet cloth to the occiput and during the latter part of the bath applying cold water to the spine in order to stimulate the cell body. Next, I gave 1-10 grain doses of calomel, every two hours until eight doses were taken, following this up, in two hours, with saline laxative. As a diuretic, I gave spirit of nitrous ether, adding to each dose (and dissolving) 1-250 grain of atropine and 1-4 of the usual dose of anodyne for infants; and ordered this repeated every two hours for six or eight doses, or until the urine passed freely, and thereafter every four hours. On the next day I found some slight improvement; the child could nurse better, and the bowels had acted three or four times. The temperature was reduced to 100°F. I then ordered another dose of saline laxative, and also left a solution of strychnine and digitalin. Quinine mixed with lard was directed to be rubbed into the patient's flexures.

The next day found the patient still more improved; she could see again and smiled, and also frowned while swallowing, showing sensation was returning to the muscles of deglutition, which before were without sensation. I repeated the bath as before, and then prescribed a stimulating inunction, consisting of 2 teaspoonfuls of cottonseed oil and 5 minims of oil of turpentine, to be rubbed over the spine after the bath.

The following day I found the patient without fever and prescribed the mixture

following, also prescribing nuclein solution in minim doses given on the tongue: Quinine arsenate, gr. 1-4; bitter wine of iron, drs. 2; glycerine drs. 4; water, enough to make ozs. 2. Dose: 30 drops every four hours.

On June 5 (one day later), the patient was much improved, so that I stopped the quinine rubs, but continued the other treatment. Of course, I still gave sulphocarbolates, and calomel with aromatics, 1-10 grain, was used along with saline laxative; also the dosimetric trinity.

I dismissed the case on the 5th, so far as visits were concerned, but ordered the patient brought to my office on the 13th, when the improvement was marked. The patient now could use her arms and hands, in fact, had recovered the use of all muscles except of part of the lower extremities. This report is made on the 17th day of the disease, and I say "Hurrah" for the alkaloids. They did it.

I met Dr. Francis at DeKalb, Texas, who has been sent from Washington to try to prevent the continued spread of this dreaded disease, that is carrying the Angel of Death to so many families.

P. E. GOLD.

Dalby Springs, Tex.

COX'S HIVE SYRUP—SCILLITIN

In reading of the bronchial trouble afflicting the Pope, there come to my mind the various remedies useful in such affections, and among them all I know of no more interesting drug than squills, or its glucoside, scillitin. Perhaps not every reader of THE AMERICAN JOURNAL OF CLINICAL MEDICINE will appreciate a bit of history connected with this drug, but I am sure here and there one of like mind with me will delight in "stogging " around among old books and pulling from under the dust of ages some hidden facts connected with the discovery or manufacture of this drug or that.

"What is this or that good for?" is a very important query; and whence it comes is no less important if we want any more of it; while to give honor to whom honor is due is just as right and important as those other matters.

Once upon a time a friend (bless his name—"I have grappled him to my soul with hoops of steel") gave me an old tome, worn, sere and yellow, and covered with the accumulated mold and dust of eighty years. Time has written upon it with its corroding finger the passing of the days. Here and there is a blot or a mark of pencil telling that someone had been drinking in knowledge at that particular fountain. Turning the browning pages, my eye catches at the heading of Syrupus Scillæ Compositus, an asterisk marked in ink, like this (*), and my eyes instinctively wander to the paragraph, because I am prone to make all kinds of hieroglyphics in my books, and they all mean something to me.

So, I began to read and found that some fond parent eighty or more years ago had, in all the anguish of his heart, sought a cure for "hives," and had found that he would have to prepare the remedy. Good! That's the very best way to get a remedy when you can't readily find one made to hand. So, then, our medic father of yore relates in his glossa that he has a family of seven children and that in their infancy they all were troubled with this disagreeable trachitis, or hives, or croup (all meaning the same), and that because of this circumstance he was compelled to study this trouble particularly.

Having found the syrup of squill, decoctions of senega and other current dope of little advantage, this doctor proceeded to combine the several remedies found most useful in such troubles into a syrup, and this concoction he called hive syrup. The preparation turned out to be very efficacious in hives, colds, coughs, and bronchitis—and here we have the history of the compound syrup of squill, as related by Coxe in his "American Dispensatory," which he published in 1830.

As a dosimetrist, I believe in prescribing single remedies; but when a happy combination does the work, that is a "single remedy" to me.

Scillitin, the active principle of scilla maritima, is easily obtainable and will answer every purpose better than the crude affair with its bark, hay, and stubble. It is best known for its beneficial influence upon the mucous membrane of the respiratory tract, increasing expectoration; whence, consequently, it is beneficial in dry, harsh, irritating coughs, but where there is no secretion, and where the sputum is scanty and tenacious. It has a soothing influence over bronchial irritation. It has other physiological effects, but these do not concern us here.

The formula for the compund syrup, as Dr. Coxe gives it, readily will be seen to be a very happy combination—seneka-root, squills, honey, tartar emetic.

M. G. PRICE.

Mosheim, Tenn.

JUST AMONG FRIENDS

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

IT HAS occurred to me to write something this month that the doctors' wife may ask the "men folks" of the family to read. Many men (and women too) do not seem to understand that one may fail in his work, whatever it may be, because of neglect of health.

The necessity for good health in successful business is so little understood in this country that the citation of ill-health as a direct or contributary cause of failure in a large preponderance of cases will, probably, create surprise or draw denial. Yet, it is all of that, and more.

If business failure were traced back to its real origin, it would frequently be found in a deranged bodily condition, nearly always unsuspected by the subject, but producing nervous or psychological effects under which no man can stand up to the sharp requirements of modern commercial life.

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The actions and interactions of mind and matter, as occurring in the human organism, I need not mention here. But no consideration of them could fail to show what everyone must already know—that any disorder of the body, whether obvious or obscure, has its direct effect upon the brain. But, the brain is the instrument upon which the mind plays. If that instrument becomes disordered, it loses in just that degree the power to respond to the action of the mind.

Artemus Ward announced a broader truth than he knew when he said: "A boil is good for one thing, anyway; it takes a fellow's mind off his other troubles." No man with a really sore neck can think clearly; and a man who cannot think clearly is not fit for business, any more than a piano with slacked or raveled strings can transmit the thought behind the music.

A perfect, instant coordination between mind and brain is a first, necessary, and continuing condition with any man who is going to keep his place in the world of affairs. The moment that coordination begins to fail, work should stop and the bodily mechanism be overhauled, until the origin of the fault is found and removed. Otherwise, disaster becomes an ever growing possibility. Deferred investigation and continued strain will bring it to a certainty, sooner or later.

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Think for a moment. A man who would no more run his motor car on deflated tires or with sand in the gear-box than he would use sulphuric acid for motive power will keep going right on at his business when the tread of his own physical mechanism is flattening out and the gear-box of his mind is filling with the wrong kind of grit.

The impatient optimism that shakes off a vague oppression with the self-assurance, "I'll be all right tomorrow," has had as much to do with lengthening out the list of bankrupts as any other one thing I could mention. You can't correct a bad condition by persisting in the things that cause it. You will only make it worse. You can easily enough, if you are bull-headed enough, make it so much worse that it will "be the death of you"; or, anyway, put you out of business..

This is not a scare-talk. I do not believe in fear as a proper therapeutic element, and I am not going to spring any new psychology on you, nor any abstractions or theories. We are common-sense, every-day people, most of us, and I am writing on the level of a common understanding, and the only reason I have for giving you a bit of scolding and a little earnest entreaty in your own behalf is, that my observation as a physician has shown me unmistakably the necessity for bodily health as precedent to mental effectiveness in all the better walks of life. That is, in all pursuits and occupations that involve use of mental powers.

Bodily health is a broad term. It includes so many things, so automatic, that we are unconscious of them. Far more frequently than most people are aware an impairment of which they are wholly unconscious will produce a condition in some fold of the brain that invariably irritates and sometimes alarms them; as, for example, the sudden inability to recall a name or a word which they know perfectly well, or a date or a thing they had taken pains to fix in their memories.

The more they try to force that word out, the more impossible it becomes; but when they have given the attempt up and have shifted their thoughts to other channels, it will flash up of itself, unasked, maybe, a day or two later. There is a long line of such phenomena, but this instance will serve in speaking of them all.

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If you are a "sporty" brother, you may shake yourself impatiently and tell yourself to "come along and have a drink." Possibly the drink may work, for up to a certain movable point alcohol does give a clearing impetus to the blood and nerve-fluid circulation in the brain, and the obscured fold may be temporarily clarified; but alcohol is a dangerous expedient, and one success of that sort is very likely to encourage others, with a slight but steady increase of the trouble itself as a result.

Stimulating with it is but pouring one poison into the field of another. That is all. For these brain-clouds are the fumes arising from poisons let loose in the system through bad assimilation, improper or too much food, or from impaired excretion by the kidneys, liver, skin or intestinal apparatus —slow, low poisons, which for a long time may not show themselves in any other way, but that will surely go on doing their dirty work until you either give up and go under treatment, or bungle your life and business to a finish—one or the other of them. Your business, whether, or not.

No one needs to be told what is going to happen with a business run by a man whose brain is thus befogged, even though the fogs be intermittent. It doesn't matter how keen his mind may be. If he cannot use his brain and get instantaneous response at will and at all times, he might as well be without a mind.

And how long would a man without a mind last in business? How long does a chicken live when its head is cut off? A few flops more or less, a good deal of nastiness and it is all over. A man may be a bird in business as long as he has his head. But the only lingering use of a headless bird appears in the form of a feather duster. Draw your own moral from that.

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Of one thing you may be entirely sure. No man's business can be impaired by his health being good. Have you ever heard of a business failure being brought on by good health? Not on your hygienics, you haven't. On the contrary, I can show you by the experience of nations, almost of races, that solidly built, solidly extended, solidly maintained, and soundly successful business, is the property of whole peoples where care of the health comes before business cares—every time.

Take your Englishman, for example, or the German, the Flemings, the Scandinavian stosks, or among Latins, the French. They *eat* and they rest. They hold health above everything for they know that if they are to work they must be well, and keep well. They are never in a hurry. We would call them slow. They call us crazy. We do things with a rush. They do things deliberately. We do not get any more done than do they, taking one year with the other; but we wear ourselves out faster, because we subordinate everything else to business, letting health go to the devil, and take us along, if needs be, if only we grab the coin; while they let the coin go to where we let our health go, or at least thay take its chance so long as they need the rest or recreation.

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A business man of western or northwestern Europe never lets anything interfere with his care for himself. He lives by the rule that health comes first; all else must give way for the absolute operation of that rule. We cannot sneer at him and his ways as belonging in an ancient order of things, inferior to our newer ones. For refutation of such a sneer it is necessary to go back to the tremendous prosperity of the lowland countries during those eighty years of horror when they were being swept across and across, time after time, by the most appalling wars we know of in that sickening conflict with Spain.

The Holland merchants who spread their commerce to the furtherest seas, while its roots were kept with Holland's blood, were neither weaklings nor loiterers. The gentlemen-adventurers of Elizabeth's time who carried English speech and English trade to every shore, who won for us the land we live in now were no "slow pokes"—they were heavy smiters, who praised God heartily but also ate heartily, who endured cheerfully but enjoyed their leisure when endurance was not forced on them.

And look at the Old Viking fellows. It was fight and feed with them: fight, whenever they found a chance for it; but feed for sure, and sleep it off solidly, to be ready for the next combat. Consider, also, the soldiers and sailors and wonderful explorers who graced the reigns of those two particularly disgraceful kings, of France, Louis XIII and

Louis XIV. Feeders, outdoor-men—going abroad to find new homes for a nation of feeders and outdoor men.

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The present business men of those countries live in and by an order that was already hereditary three hundred years ago, when those old fellows were fighting and feeding, that today's business men might come into the world, to sustain great populations.

Do not for a moment think the modern business conditions in Europe are any easier; than our own. They are different, of course but they are just as full of close work, competition, emulation as ours. Worse—with us, a man may fail repeatedly and still come back. Not so over there. With them, when you go out, you stay out. The shadow of failure will follow one like the shadow of one's body, as long as one lives; and it is a shadow that all men sidestep at sight.

Simply, a man can't afford to fail over there, in Europe. He can't work if he is sick. Therefore, he takes all manner of pains to keep well. If he finds he can't, he will go away until he finds *himself*. And then you couldn't keep him off the job.

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The business man of the old world has a few laws for the government of himself: He must have time to sleep. He must have time for his meals. He must not touch alcoholics during business hours. He must not take his business home with him. Read these words over once more.

In all Europe, there is no such thing as our frantic lunch-counter. We have the best dentists in the world, because we of America bolt our food, and as a consequence digest it so badly that our teeth rot early in life and we then neglect them until only the very best dentists can do anything with them at all. That isn't the worst of it. The stuff we eat and the way we eat it, and then tear back to work while poor old Mr. Digestion is trying to get our attention, clogs the systen with broken-down waste matter, whence evolve the brain-clouding poisons I have spoken of. And still we keep at it!

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The Treatment of Neuralgia

The recollection, that neuralgic pain is usually only the manisfestation of some other underlying difficulty and that careful search for, and the discovery of this difficulty, together with its consequent removal, will relieve the neuralgia, is perhaps the most important part of the treatment of this affection. At the same time, patients suffering from neuralgic pain urgently demand speedy relief, and therefore it behooves the physician to have ready for instant employment a certain class of drugs that are known to exercise a sedative influence upon nerves or nerve-centers which are giving pain because of the irritability.

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Among the common causes of neuralgia, aside from those conditions which depend upon organic lesions in nerve-centers, are anemia, eye-strain, the condition called uric acidemia and the other disorders of metabolism closely associated with a rheumatic or gouty diathesis, carious teeth, nervous exhaustion, and, finally, the abuse of such drugs as coffee and tobacco. It is surprising how frequently the arrest of the tobacco-habit in men will cause neuralgic symptoms to disappear, or the stopping of the excessive indulgence in, coffee by women will to them result in benefit.

These neuralgic manifestations by no means infrequently affect portions of the body other than the head; for often violent abdominal neuralgia, thoracic pains or neuralgic ovarian tenderness take the place of cephalalgia.

It cannot be doubted that there are two sorts of neuralgia differing from each other in almost every respect, but which, nevertheless, altogether too often are confounded. One of these neuralgic manifestations proceeds or arises from a local and circumscribed cause, which in some cases may be removed by a surgical operation. The other form appears to depend upon a constitutional cause—that is, upon great derangement of the general health—and it can be treated successfully only by attention to this specific derangement. The latter variety most commonly is seated in some of the most superficial nerves, returns at irregular intervals, induces little or no change in the appearance of the part affected (either during life or when examined after death), and may, therefore, be supposed to have a constitutional, or systemic, origin, and not merely a local and circumscribed one.

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Some persons consider neuralgia to be dependent upon an inflammatory state of some portion of the nervous system, but I do not consider this correct. It is by no means rare to meet with individuals who, without any physical or rational sign or organic disease, and sometimes even while enjoying the most perfect health in other respects, suffer acute pain—in the interior of the chest.

AMONG the BOOKS

FRENCH: "LABORATORY METHODS"

Medical Laboratory Methods and Tests. By Herbert French, M. A., M. D., assistant physician at Guy's Hospital, London. Third edition. Chicago: The Chicago Medical Book Company. 1913. Price $1.50.

In our editorial pages this month, we have taken occasion to urge upon our readers the importance of availing themselves of all the modern agencies and facilities of diagnosis in their everyday practice, especially the socalled "clinical diagnosis" of the present day—so named, we presume, because it is not to be done at the bedside, but in the laboratory.

Some of these methods and tests, we realize, are too complex and difficult to be undertaken by the general practitioner or under any other than actual laboratory conditions. But many of them are simple and easy to carry out, and can very readily be conducted by the doctor himself, in his own amateur laboratory, with the plain directions contained in a small working-manual.

Such a manual is this of Dr. French's, and one of the best that we have ever looked into. It confines itself to the commoner diagnostic procedures which the average physician is likely to carry out himself, and gives brief, clear, practical instructions, easily understood and put into practice, such as the Englishman seems peculiarly fitted to give. The plates are exceedingly beautiful and illuminating.

KEEN: "SURGERY"

Surgery: Its Principles and Practice. By Various Authors. Edited by William Williams Keen, M. D., LL.D., Volume VI. With 519 illustrations, 22 of them in colors. Philadelphia and London: The W. B. Saunders Company. 1913. Price $7.00.

This volume of Keen's monumental work has no regular place in the series, but represents an additional contribution, in an effort to compensate for the time that has elapsed since the publication of the first volume and the progress that has been made in the interval.

The authors were requested, as the publishers tell us in the preface, to "furnish supplementary matter, so as to bring their chapters fully abreast of the present status of surgery."

So, in this volume, we find chapters on Crile's anoci-association theory of shock, the newer methods of anesthesia, the modern treatment of cancer, the use of salvarsan in syphilis, surgery of the hypophysis, and so on. Above all, there is an extensive contribution on the surgery of the thorax, in which, perhaps, there has been more advance in the last five years than in any other branch.

The list of contributors to this supplementary volume is a distinguished and representative one, and the work is worthy of the galaxy of its coworkers. Both editors and the publishers are to be congratulated upon their rare discrimination in thus putting a a greatly needed finishing touch to an otherwise adequate undertaking.

FOWLER: "THE OPERATING-ROOM"

The Operating-room and the Patient. By Russell S. Fowler, M. D., chief surgeon of the German Hospital, Brooklyn, N. Y. Third edition, re-written and enlarged with 212 illustrations. Philadelphia and London: The W. B. Saunders Company, 1913. Price $3.50.

This book may be regarded as the field-manual of the surgeon, and of every physician who is confronted (as every physician is occasionally confronted) with the necessity of doing his own operating. It has nothing to say about the principles of surgery, the indications or probable results of this or that operation. It does not even offer any discrimination between various methods of operating.

The work's function is confined exclusively to a description of the technic involved in the surgery of different parts of the body; the preparation of the patient for operation, and his care afterward; and the instruments re-

quired, their care and use. So far as we are aware, this is the only book extant, at least in American literature, that treats of this aspect of surgery in just this particular way and with this degree of comprehensiveness. Hence we are not surprised to find it already running into its third edition within six years after its first appearance.

It is, of course, a work the nature of which demands constant and alert revision, since technical methods and armamentaria are continually changing and improving. And the author is thoroughly awake to the necessity of this. The present edition brings everything up to date, and should replace the former ones found on any doctor's bookshelf. For those who do not possess the work, this is a capital time to get it.

ROSENAU: "PREVENTIVE MEDICINE"

Preventive Medicine and Hygiene. By Milton J. Rosenau, professor of preventive medicine and hygiene at Harvard; formerly director of the Hygienic Laboratory of the U. S. Health Service. New York and London: D. Appleton & Co. 1913. Price $6.00

With his characteristic thoroughness, Dr. Rosenau has given us one of the most comprehensive summaries of the present-day status of preventive medicine and hygiene that has yet appeared in medical literature. He has the rare faculty which is found only in great scientists—which, indeed, makes a man a great scientist—of following out details without losing perspective. He is able, as some epigrammatist has said, to "walk in procession and to sit in the review-stand and watch himself go by."

Dr. Rosenau, who himself has contributed no mean part to the outworking of certain phases of hygiene and preventive medicine, is yet able to assemble and select and evaluate, with masterly discrimination, all the permanent results of his own and others' work in this ever-increasing department of science into a coherent and meaningful generalization of the subject.

Apart from its working-value, his book makes fascinating reading. This feature, however, would appear to inhere to the subject, rather than to the style; for it would be an injustice to the author to suggest that he aimed at any such effect.

The book is primarily and preeminently a practical treatise; its purpose is to put the fruits of the last quarter century into concrete, usable form. And it will not be the author's fault if this purpose fails of fulfillment in the daily practice of those who read.

FAUGHT: "BLOOD PRESSURE"

Blood Pressure from the Clinical Standpoint. By Francis Ashley Faught, M. D., Instructor in Medicine at the Medico-Chirurgical College of Philadelphia. Illustrated Philadelphia and London: W. B. Saunders & Co. 1913. Price $3.00.

The sphygmomanometer has now become a part of the armamentarium of almost every practicing physician. At all events, it ought to be included in his equipment. And the knowledge of how to use it, and how to interpret its findings, ought to be an integral part of his mental equipment. It can hardly be doubted, however, that to many even among those who are using this instrument, it has but a very superficial and dubious significance, not so much because of a lack of mechanical skill in adjusting and reading it, but rather for want of a clear, elemental understanding of the physiological factors that underlie blood pressure, and therefore of a proper appreciation of the conditions to which it is an index.

All of this information is set forth in Faught's book and specific application made to the various disease-complexes in which blood pressure is a diagnostic symptom. A perusal and digestion of this book will transform, for the practitioner, his sphygmomanometer from a mere perfunctory instrument of routine into a genuine agent of most vital and essential information. We cordially commend it to every physician who already uses the clinical diagnostique of blood pressure or who is desirous of availing himself of its aid.

ADAMI: "OPHTHALMOSCOPIC DIAGNOSIS"

Ophthalmoscopic Diagnosis: Based on Typical Pictures of the Fundus of the Eye, With Special Reference to the Needs of General Practitioners and students. By Dr. C. Adami, Assistant at the Kgl. Univ.-Augenklinik, at Berlin. Translated by Matthias L. Foster, M. D., With 86 colored plates and 18 illustrations. The Rebman Company. 1913. Price $6.00.

The reviewer flattered himself that he knew something about the diagnostic range of the opthalmoscope, but must confess that in looking into this latest atlas, compiled by Dr. Adami, he feels a good deal as Keats

said was his sensation when he looked into Chapman's translation of Homer—"like some watcher of the skies when some new planet sweeps into his ken." It makes one itch to grab his ophthalmoscope—or to buy one if not already possesed of such an instrument—and go out and waylay people on the street and examine their funduses, whether they will or not, just to see the many and wonderful things that Adami tells us can be seen through it.

And with what illustrations does he back up his marvelous assertions! They are the most marvelous, and the most instructive, part of the entire volume. Frankly, we are delighted with the work. It is a masterpiece in every respect, and that upon everybody's part from author to publisher. The original work that it represents is prodigious; the artistic skill surpasses anything ever displayed in books produced in our country; and the physical qualities are correspondingly excellent.

It is a great pity every physician does not possess and make use of an ophthalmoscope. With this instrument and this book, any doctor could add an extensive and valuable area to his domain of modern diagnostique.

WILLIAMS: "LABORATORY METHODS"

Laboratory Methods, With Special Reference to the Needs of the General Practitioner. By B. G. R. Williams, Assisted by E. G. C. Williams, With an Introduction by Victor C. Vaughan, M. D., dean of the Department of Medicine and Surgery of the University of Michigan. St. Louis: The C. V. Mosby Company. 1913. Price $2.50.

Readers of CLINICAL MEDICINE already have made the acquaintance of the author of this little book through the valuable articles which he has contributed from time to time, to this journal on the subject indicated in its title. Not only will they need no introduction of or to the author himself, but they will require no persuasion from the reviewer that the book is well worth their looking into.

For our own part, we have seldom met with a writer who knows, as Dr. Williams does, how to make the subject of laboratory methods, which of itself can hardly fail to be somewhat tedious, not to say dry, a topic of absorbing interest. He makes the dry bones live. Nay, more—he knows how to breathe positive inspiration and enthusiasm into suggestions and instructions, so that one is seized with an irresistible desire to get up and do the things he describes.

Dr. Williams is a man of imagination; and that is what makes work inspiring, after all. The very titles of his chapters are alive with it. "Vascular Dramas"—who but Williams would have thought of such a caption? And who can resist the call that it makes to one's own imaginative faculty?

Technically, the work covers all the laboratory procedures that the general practitioner is likely to need, and covers them in helpful, illuminative fashion. Certainly, if we were looking for a manual on laboratory methods, we should choose a vital, genial, and withal scientific book like this of Dr. Williams.

MASON: "THE VILLAGE MYSTERY"

The Village Mystery and Through War to Peace. By Benjamin F. Mason. New York: Broadway Publishing Company, 835 Broadway.

Here is an interesting story written by a doctor, one which is filled with thrilling episodes, and will certainly hold the attention of the reader. Now that we are living over again the great tragedies of the Civil War and have just celebrated the fiftieth anniversary of the battle of Gettysburg, Dr. Mason's book will find many readers among the old soldiers, who in its pages will be reminded of the victories and defeats of half a century ago.

"RIEDEL'S BERICHTE," AND "RIEDEL'S MENTOR"

"Riedel's Reports," which is issued annually by the J. D. Riedel Akiengesellschaf (Berlin) always contain a large amount of interesting information. In the first part of the present issue there are a number of papers on chemical investigations, while the second part contains a pharmaco-therapeutic review of the most important contributions published during the preceding year. Part III gives the names, compositions, characteristics of and indications for the newer remedies, specialties, and technical products, while in Part IV the firm's pharmaceutical specialties are listed. We understand that a copy of this interesting annual report (which is printed in German) can be obtained by addressing Messrs. Riedel & Co., 29-35 W. 32d St., New York City.

CONDENSED QUERIES ANSWERED

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5932.—"Albuminuria of Pregnancy." F. P. G., Kansas, writes for information as to "treatment in a case of pregnancy (eighth month), where there is scanty urine containing a small percentage of albumin but no edema of feet, face or hands perceptible. The patient had a slight headache one day. There is a tendency toward constipation, but a daily movement is secured by the aid of saline laxative.

Albuminuria of pregnancy when presenting itself in mild form, usually disappears after a course of arbutin, cleaning out first with a few small doses of calomel and podophyllin and following with a laxative saline draught. The writer usually adopts this course: Calomel, gr. 1-6, and podophyllin, gr. 1-6, at 7 and at 8 o'clock p. m., repeated every third night for nine days; and a saline laxative three times daily, between meals, with a glass of water or, preferably, thin barley water. It is essential, of course, to keep the patient's skin active and to regulate her diet.

There is a wide difference of opinion among observers as to what amount of albumin in the urine of the pregnant woman is to be considered pathological. Examination of statistics leads us to believe that albuminuria occurs in at least 25 percent of pregnant women. Dumas finds albumin in 1 specimen out of every five, and Parvin encountered it in 6 percent of his cases. It is unquestionably more frequent in primaparas than in multiparaes, and infinitely more common late than in earlier months.

The presence of albumin under the circumstances in question may be owing to: (1) direct irritation of the kidney and the result of an altered condition and greater impurity of the blood; (2) pressure upon the renal veins by the enlarged womb—a condition similar to the congestive albuminuria of cardiac diseases; (3) pressure on the uterus; (4) anemia of the kidneys, produced reflexly by stimuli from the genital organs; (5) anemia caused by blocking of the renal vessels by minute emboli, resulting from the presence of a ferment in the blood or of placental origin.

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QUERY 5933.—"Emetine as a cure for Dysentery." G. A. B., Massachusetts, asks for detailed information relative to the treatment of dysentery with emetine hypodermically administered. He also wishes to know whether the drug is effective in dysentery other than that owing to the presence of amebæ.

To begin with, we would call special attention to an article which appeared in CLINICAL MEDICINE for July (page 593). This contains considerable germaine information.

Dr. Lyons, of New Orleans, has utilized emetine in six cases. All but one of these patients recovered, and he was practically in a moribund condition when first seen. The average length of treatment with this drug until the stools become normal was nine days for the five who got well; and it would have been still shorter, he thinks, if the emetine hydrochloride in capsules had been employed throughout. The average total dosage was 2.6 grains, which is a little larger than that given by Rogers. The preparation was made up by a local druggist and at times caused a little irritation and infiltration, on account of a slight excess of acid.

The advantages of the subcutaneous injection of emetine treatment are summarized by Lyons as: (1) Simplicity and ease of administration of the drug. (2) Absence of pain, vomiting, and depression. (3) Accurate dosage (no loss through the bowels). (4) Rapid absorption and effect. (5) Reliability of the product (hydrochloride).

While the time which has elapsed is as yet too short to enable one to speak with absolute certainty as to the cures, he believes that the results are highly suggestive and that we have in emetine an ideal method of treating amebic disease.

Subbish, in *The Indian Medical Journal*, reports his experience with emetine in the case of a Sepoy who had been in the hospital affected with this disease for nearly three months.

"On August 4, 1912, he had sixteen motions during the day, with severe tenesmus. The motions contained only blood and mucus. Liver tender on pressure, but not enlarged. He was given castor oil and opium in the morning and 30 grains of ipecac in the evening, which he vomited. August 5: Had twenty-three motions during the day. A dose of 20 grains of ipecac with laudanum was administered, but was not retained. No improvement; much tormina. August 6: A dose of 40 grains of ipecac and 10 grains of tannic acid was given, but was not retained; improvement in the stools nor in the general condition. Colon hard to touch.

"August 7: Had twelve stools. Could not retain the ipecac, and his condition became worse. Now 1-4 grain of emetine hydrochloride dissolved in sterile salt solution was injected hypodermically in the arm; there was neither vomiting nor were there any local signs or irritation. He passed only two motions during twelve hours. The stools contained a little blood and mucus. August 8: Emetine injection was repeated. Had only four motions; free from blood and mucus. There was a distinct improvement. August 9: Emetine injection was given again; there was no vomiting; had only two motions during the day. He had an uninterrupted progress.

"Emetine hydrochloride, the active principle of ipecacuanha, had, undoubtedly, a very salient effect in this case," says Dr. Subbish. "Its action was very rapid, without any tendency to nausea or vomiting. There were no signs of irritation. It is, therefore, in every way superior to ipecacuanha."

Roger's article on the "Rapid and Radical Cure of Amebic Dysentery and Hepatitis by the Hypodermic Injection of Soluble Salts of Emetine," appears in *The Therapeutic Gazette* for December 15, 1912. We suggest that you procure a copy.

Rogers finds that emetine hydrochloride can safely be injected intravenously in considerable-sized doses. For instance, in the morning, he gave a patient 1-2 grain of the drug dissolved in 5 Cc. of normal saline solution, injection being made in the median basilic vein. In the evening of the same day, he administered 2-3 grain; and a day later, 1 grain, in the same way, in addition to several subcutaneous injections. "Although large, black sloughs were being passed," Rogers says, "the dysenteric symptoms rapidly cleared up."

Under the circumstances, it is evident that a comparatively large dose of emetine hydrochloride may be given hypodermically, subcutaneously or intravenously.

We would be inclined to give 1-3 to 1 grain hypodermically, two or three times daily; in desperate cases, 2-3 grain intravenously; hypodermically, two or three times daily; in desperate cases, 2-3 grain intravenously; repeating the dose, if necessary, within twenty-four hours. At the same time, a 1:1000 solution of quinine hydrochloride (or sulphate) should be introduced well up into the bowel through a soft-rubber tube.

The Medical Department, U. S. A., is now experimenting with emetine, and interesting reports from that source doubtless will soon be forthcoming. The European medical press contain numerous articles upon the subject, and in practically every instance the writers report most satisfactory results. Full abstracts of these will be found in the department of CLINICAL MEDICINE, "What Others Are Doing," for the last six months. Several will be found in this issue. Also read Roemer's article, August number.

Emetine is of value in *all* forms of dysentery. The drug relieves alimentary congestion and, increasing capillary innervations, checks choleraic discharges. Moreover, it restores biliary secretion without producing catharsis; while the secretions it incites are normal in character. However, it is only *specific* in the amebic form. This form it can be depended upon to cure positively and quickly because, in sufficient concentration in the blood, it kills the amebas.

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QUERY 5934.—"Infantile Convulsions." J. W. C., Massachusetts, writes: "As CLINICAL MEDICINE has been coming to me for more than ten years and I have been a constant user of alkaloidal granules for that length of time, I feel acquainted enough to risk bothering you to help us clear up a question.

"Responding to a hurry-call, I found an Italian baby seven months old, fat and large for her age, in convulsions, not very severe but constant. I was told that she had been

sick two days, and the regular physician called it a 'cold.' Two hours before my arrival the convulsions set in. The temperature (rectal) was 103 1-2°F.; skin felt cold and dry; eyes were clear and anemic, pupils dilated, especially when a convulsion occurred; skin was white (waxy); lips, dark; tongue, pale; there was profuse salivation; I could not feel the pulse at the wrist; the lungs were so noisy all over that I could not elicit the heart-sounds; the child's breathing was difficult and shallow; the bowels had moved four times that morning, and an enema brought away a small quantity of green mucous without strong odor; the bowel was soft, not bloated; consciousness was gone, also, the reflexes; the neck was flaccid, the child did not retract the head.

"I tried a solution containing glonoin and atropine, in an effort to bring the blood to the surface, and rubbed the child's body with a counterirritant solution. Italian people are so averse to bathing a sick child I delayed the mustard bath. Ten minutes after I arrived the child stopped breathing. The heart continued to beat a minute longer.

"The family physician had called that forenoon and left aconitine granules, 1-800 grain to be given every hour on the tongue with a little water. They had given the baby three doses an hour apart (dry, as directed), when convulsions commenced. The doctor tells me he gave three or four doses, fifteen minutes apart, when he first saw the child. He has given the same to other (older) children. I took one of the granules (dry) and crunched it up, and in a minute my mouth was tingling and I found it hard to talk, because of a spasmodic feeling in the throat.

"Now the question: Did the aconitine have anything to do with causing the convulsions and death? It seemed to me that the dose was too large for a seven-months'-old baby; and, given dry, the aconitine exerted its full effect on the throat, causing a spasm there and of the respiratory muscles. The doctor who is mentioned is a friend of mine and I am writing so that we may both learn something about giving potent alkaloids to children. I am much more cautious myself, always giving a weak solution to an infant."

After careful consideration of the clinical data presented, we are inclined to advance the opinion that the child was practically moribund before you arrived, the evidence of asphyxiation being very marked. Not infrequently infants suffering from severe capillary bronchitis are "smothered by their own secretions." Twenty-four hours earlier in the disease, we would have placed the child in a hot mustard-bath and administered medicated steam, and given, internally apomorphine, with lobeloid following.

Aconitine in full doses was not exactly the right remedy in this instance. Certainly we would hesitate to give 1-800 of a grain of aconitine every fifteen minutes for an hour to a 7-months'-old child, especially if marked respiratory embarrassment existed. You are quite correct, doctor. It is always preferable to give aconitine in solution, and before exhibiting the drug free elimination should be secured, while the heart is supported with cactoid and small doses of brucine.

Under the circumstances, while it would not be fair to say that aconitine, as administered, caused the convulsions or hastened the fatal termination, we are of the opinion that in such cases much smaller doses should be given, i.e., one-sixth to one-twelfth of a standard (gr. 1-800) granule in thirty or sixty minims of water, this to be repeated at frequent intervals; being sure that thorough elimination first has been secured.

Oxygen would have been a valuable therapeutic agent under the circumstances, and we are satisfied that the lives of several little ones have been saved by us with the portable apparatus invented by Dr. Booth. See the article on the treatment of bronchopneumonia in "Everyday Diseases of Children." The treatment there outlined has proven extremely efficacious in the hands of hundreds of practitioners.

As you will note, for young children a combination of aconitine, veratrine, and digitalin is recommended in that book—one-fourth of a granule at a dose. The local application of equal parts of methyl salicylate and guaiacol in lanolin has proven extremely beneficial. A high enema in this case, and a single dose of apomorphine (hypodermically), even when you arrived, might, possibly, have produced a change for the better; but, as we have already stated, we believe the little one was entirely beyond help when you first saw her.

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QUERY 5935.—"Seborrheic Eczema." J. W. Y., Mississippi, is treating two patients, each of whom have some small ugly sores on the face and nose, which scab over, but the scabs drop off every few days and leave ugly red sores; there is no pain and no surrounding infiltration. Both patients are in "first-class condition," yet, these lesions have persisted for two years or longer. One of the men was cured once by treatment with the copper electrode, and remained "cured" for a year

or longer; however, the sores have reappeared. The doctor asks whether dermal caustic would prove beneficial.

In our judgment, caustics of any kind are contraindicated in these cases; but several questions present themselves, as for instance, how large are they? How old are the patients? What is the anamnesis? We think it would be well to have the scales examined by a good pathologist.

We have an idea that thuja and methylene-blue, with perhaps the addition of bichloride of mercury, would prove effective. If there is any ulceration or destruction of tissue, the possibility of epithelioma must not be forgotten. You do not describe the color of the scab nor state whether the base is moist or dry. In eczema, the scales usually are yellowish and greasy; psoriastic patches are gray, hard and dry. The nose is a favorite locality for seborrheic eczema; in psoriasis, similar patches are often observed, but the itching is usually absent, and there is very little, if any infiltration of the surrounding tissues.

You can readily see how important it is that a diagnosis be made before instituting treatment. Have you examined the blood of these patients? There is probably some marked disorder of the body-chemistry.

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QUERY 5936.—"Hematemesis of Traumatic Origin." R. T. L., Georgia, presents the following clinical data and asks for diagnostic and therapeutic suggestions.

"The patient a young man, age 30, of good habits and family history. Four years ago a horse stepped on the right side of his stomach; and he vomited blood for several days, after that, vomiting and pains ceased. Six months later, he was attacked with something like hiccough, which caused the whole body to jerk, giving excruciating pains in the duodenal end of stomach; and these seizures have been taking place at intervals ever since then (3½ years). As much as a full year has elapsed between attacks. At present he experiences pain after eating, and this is relieved by vomiting—red blood being in the vomitus and also in the stools."

The doctor was with this patient during one of these "hiccough" spells. A quantity of blood was vomited just before the jerking set in. This jerking, starting first in the stomach, gradually extended over the entire body. The patient complained of "awful pain in the region of the stomach where the horse had placed its hoof, and he explained that the "pain there feels as if someone were stabbing him through with a knife." He retained consciousness until sleep was induced by means of opiates. Two H-M-C tablets administered hypodermatically relieved him and he slept nearly all next day. The patient is a hearty eater, and, being a farmer, a hard worker.

Our correspondent considers that this young man presents all the symptoms of gastric ulcer, but is puzzled by those "awful spells." He writes: "I have never seen a man suffer more intensely and not loose his mind. The spell leaves him very sore over the stomach for several days. He has lost weight in the last month, dropping from 135 to 108 pounds. Could the horse have made a wound in the stomach that has become chronic, causing this trouble, or is it simply a case of ulcer?"

In order to make a definite diagnosis, doctor, it is absolutely necessary to examine the stomach contents, giving a Boas or Ewald test-meal and withdrawing the contents one hour later. Subsequent lavage with a resorcinated solution of calendula, or with calendula and hamamelis lessens the liability to hemorrhage.

It is advisable to pass the stomach-tube about ten days after a hemorrhage. Examination of the stools is also desirable.

Several writers advance the opinion that trauma cannot produce gastric ulcer, unless other conditions are associated. Blows, falls and the like may produce severe damage to the mucous and marked hemorrhage, without production ultimately of ulcer. However, in our opinion, traumatism may be an important factor; in this way a hematoma may be produced in the stomach-wall this interfering with the nutrition of parts, and together with the coexistence of a hyperchlorhydria, tends to the formation of an ulcer.

Virchow advances the theory that ulceration may result from plugging of the artery by a thrombus, the infarction being destroyed by the gastric juice.

Einhorn has demonstrated that erosions of the gastric mucosa are a clinical entity, and that ulcer need not result. Local interference with the circulation, and a concomitant hyperchlorydria, with resultant necrosis, are probably the most frequent causes.

It is impossible, of course, to venture an opinion as to the exact character or extent of the lesion in your patient.

Singultus and spasmodic conditions not infrequently accompany chronic ulcer. We need not tell you, of course, that convulsions or tetanic attacks frequently occur in the later stages. It is possible that some kind of traumatism of the liver also is a feature.

All considered, the singultus would lead us to suspect perforation, with involvement of the phrenic nerve, possibly a subphrenic abscess.

In perforation with circumscribed abscess formation, the symptoms are: sudden pain, muscular rigidity, distention of the abdomen and tenderness on pressure, singultus, vomiting, cold sweat, rapid and feeble pulse followed by a rise of temperature.

As you readily will understand, a very careful examination must be instituted, and if the patient is in a position to bear the expense, we strongly urge you to take him to a thoroughly competent man specializing in diseases of the stomach and intestines.

You do not say how often these attacks occur, neither do you give us any idea of hepatic, gastric, and intestinal conditions revealed by palpation, percussion and so on.

When sending a specimen of the stomach contents, give full clinical data, doctor, and we shall then be able to discuss this matter more intelligently.

In the meantime, we should be inclined to put the patient in bed, wash out the stomach carefully, and institute rectal feeding. Condurangin and chelidonin may be given internally, with silver oxide and hydrastoid as alternants. Nuclein in large doses on an empty stomach also proves extremely useful.

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QUERY 5937.—"A Suspected Venereal Infection of a Young Wife." S., Arkansas, has a patient, a married woman 18 years old, who three days after marriage became sore and had a purulent discharge from the vagina. Seemingly she recovered, but one month later two sores came, which itched and were hard. They healed under specific treatment. A week ago another lesion appeared in another place. Our correspondent asks: "What is it? Can the secondary symptoms be cured, and the tertiary prevented? I want to know, for I may be before the court in a divorce suit. Could syphilis and gleet coexist and cause itching?"

It is impossible, of course, to say that your patient is not syphilitic, but, from the limited information conveyed, we are inclined to think that the young wife contracted gonorrhea and the sores you speak of probably are due to infection of the vulvovaginal glands. Had you given their location and described them more difinitely, we could express a more positive opinion.

The typical chancre (the initial sore of syphilis) hardly can be mistaken. You say that three days after marriage a vaginal discharge was noticed; but just such signs of gonorrheal infection show in from one to four days. Of course, it is possible that infection was not a specific one, but rather brought on by rough treatment, You say this discharge cleared and that a month later two sores came which itched, but healed after treatment. You do not give us any idea of the character or location of the lesion, neither do you describe the third sore, which you say appeared a week later.

Have you examined the man? What is the history there? It is quite possible that the man is responsible, especially if the woman, as you say, is of "good character." Thousands of young wives are infected in just this way by ignorant or conscienceless men. Syphilis, of course, can be cured.

No secondary symptoms of lues seem to have made their appearance. Usually they show in from six to twelve weeks after the appearance of the chancre. Sometimes a pronounced fever is observed, followed in a day or two by an eruption; but more frequently there is a slight rise of temperature, accompanied by a macular and papular eruption over the body and limbs, which does not itch. It may last a week, or so, and then disappear. Pustules occasionally are observed, or, squamous eruptions. The throat and mouth should be examined for mucous patches, and the axillæ, perineum, groins, margins of the mouth and anus, and inner surfaces of the labia for condylomata.

Before giving expert evidence or even instituting definite medication, investigate matters thoroughly. A sample of the discharge should be examined for gonococci, and a Wassermann test should be made with the blood. Secure these before proceeding further. If the young woman *is* syphilitic, and, as you say, "of good character," you will find evidence of the disease in her husband. If, on the other hand, she was infected with the Neisser bacillus (gonorrhea), uncured gonorrhea will exist in the husband.

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QUERY 5938.—"Cirrhosis of the Liver." J. M., Illinois, asks whether it is possible to outline an effective treatment for cirrhosis of the liver.

Unfortunately, it is difficult (practically impossible, in fact) to prescribe intelligently for "hepatic cirrhosis." Treatment must of necessity be based upon a knowledge of causative and present (resultant conditions). If the etiologic factors could be controlled before regenerative processes are exhausted or extensive degeneration has resulted in the

formation of connective tissue, the life of the individual might be materially prolonged.

Abuse of alcohol undoubtedly is the commonest etiologic factor, and in the earlier stages of such cases much may be done for the patient, but when decided signs of portal obstruction (ascites, peripheral edema, enlarged abdominal veins, etc.) make their appearance the outlook is decidedly gloomy. Rest is indicated, and cardiac insufficiency demands the use of some form of digitalis—digitalin, digipoten, caffeine, scillitin, blue mass and soda (or calomel), and apocynin in full doses prove beneficial. We have had excellent results from a combination of apocynin, scillitin, and caffeine, alternated with asparagin.

Frequently peritonitis is a complication of cirrhosis; little though, can be expected from laparotomy. Tapping may have to be repeated frequently.

Do not forget the distinction between ascites the result of cirrhosis, and ascites asociated with cirrhosis, but owing to another cause, tapping seldom is required more than once and is soon followed by death. It is the present opinion of observant clinicians that, when ascites develops while the general condition of the patient is good, it is probably in part the result of chronic peritonitis; and it becomes a question whether it is more advisable to begin tapping or to do the Talma-Morrison operation.

The writer would advocate operation in the early stages, when there is no jaundice, no evidence of toxemia, and where the condition of the heart and kidneys is good. After cachexia is evident and the above complications are present, operative interference could only hasten death. Where operation is contraindicated, tapping should be done just as soon as distention becomes uncomfortable and medical measures are proving ineffectual. It is understood, of course, that diuretics prove more efficacious after the pressure of the ascetic fluid has been removed.

We would be inclined to give, in this case, euonymoid and myricoid three or four times daily, in alternation with the diuretics and cardiants already suggested. A laxative saline draught should be administered every morning. In addition, you might advantageously inunct ointment of potassium iodide over the liver.

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QUERY 5939.—"Gonorrhea in a Female Child." E. H. F., Indiana, desires assistance in the first case of gonorrhea in a girl child he has ever seen. The little patient is six years old.

Gonorrheal vulvovaginitis in a child is not infrequent, although as a rule, occurring among the poorer classes. Not infrequently, the infection is transmitted from an adult to the child when the latter sleeps in an infected bed; cases also are on record where the mother or nurse suffering from vulvovaginitis has infected the child. Still, infection through congress is not uncommon, the idea unfortunately prevailing among many ignorant foreigners that the disease may be gotten rid of by cohabitation with a virgin. Obviously, little children many times are the victims of conscienceless beasts.

Treatment necessarily depends to a very considerable extent upon the infection, the length of time the disease has existed, and other considerations.

A 25-percent solution of argyrol injected several times a day may be used advantageously. When there is intense itching, a 2-percent of ichthyol solution containing glycerin should be thrown into the vagina, after first having the vulva and external parts thoroughly washed with the same. After the cavity has been drained, an astringent solution consisting of zinc sulphocarbolate 2 grains to the ounce, should be applied. It is an excellent plan to cover the vulva with pads saturated with a very weak solution of mercury bichloride.

Labarraque's solution, diluted to 1 in 20, may be used to inject during the acute stages; one ounce of chlorine water added to a pint of lukewarm water, morning and night. If discharge is not lessened markedly, injection should be given three times a day.

The arsenates of iron, quinine and strychnine, with nuclein should be given three times daily. Also, the child should be saturated with calcium sulphide. Very remarkable results have been secured recently from the local use of a combination of echinacea, belladonna, and nuclein. A concentrated standard solution is applied to the infected mucosa and the cavities are irrigated with a dilution containing 5 minims to the ounce of water.

Congestion is promptly relieved, the discharge ceases, and in some unexplained manner the field is rendered inimical to the Neisser bacillus.

Strict attention should be paid to hygenic treatment. The patient's hands should be guarded so that the infection can not be carried to the eyes, which is a very common trick among children.